Natural Sciences and Engineering Research Council of Canada
Conseil de recherches en sciences naturelles et en génie du Canada

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Research Means Business

A directory of companies built on NSERC-supported university research

NSERC CRSNG

Investing in people, discovery and innovation

Canada

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NSERC is Canada's instrument for promoting and supporting university research in the natural sciences and engineering, other than the health sciences.

NSERC supports both basic university research through discovery grants and project research through partnerships among universities, governments and the private sector, as well as the advanced training of highly qualified people.

December 2002

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TelePhotogenics	Alberta	117
TGN Biotech	Quebec	118
Thermo Dynamics	Nova Scotia	119
TIR Systems	British Columbia	120
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PREFACE

This book is about research leading to innovation. It profiles 134 Canadian companies, which vary in size and form and operate in widely different industries, from aerospace to pharmaceuticals, and from information technology to agriculture. But for all their diversity, they share a common characteristic: roots in university research funded by NSERC.

The companies profiled here are some of those that owe their origins in part to NSERC. They are first-generation companies whose roots can be traced most directly to university research supported by NSERC. These companies alone have created almost 12,000 jobs and produce nearly $2.4 billion dollars in annual revenue in Canada. Several of the companies have gone public and new ones continue to be created. These companies and the process that created them are basic to Canada's prosperity.

For nearly twenty-five years, NSERC has been making investments in university research in two ways. Many of the companies described here grew out of NSERC grants for basic research. Such grants are given on the basis of the excellence of the researcher and of the program of research proposed, and this commitment to excellence has led to radical discoveries and innovations, often unexpected, that become entirely new technologies and the basis for new enterprises.

NSERC also funds research in which innovation is an expected outcome. Our Research Partnerships programs bring university researchers and industry together to work on projects that solve important problems that can't be solved with existing knowledge. Such solutions often lead to innovations in products or processes. To date, more than one thousand companies have been NSERC's partners in funding research projects in universities, and many of them have been our partners repeatedly.

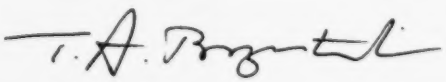
As we track the return on NSERC's investment in basic research, in research partnerships and in the training of highly qualified people, it becomes clear that university research has an essential role to play in the prosperity and well-being of all Canadians. Generating new knowledge and skills has proved to be the surest means to ensure innovation and sustainable job creation.

The companies profiled in this book represent one important way that university research contributes to innovation in Canada. Our universities are very good at it, and they are ready to do more to help to meet the Government's commitment to move Canada into the world's top five countries in R&D, and to make Canada one of the most innovative countries in the world.

We see our people working at rewarding and meaningful jobs because they have the skills and knowledge to create value and meet needs in the global economy. We see our scientists and engineers respected throughout the world because of their leading-edge discoveries and trailblazing projects. We see our industries thriving because business is taking full advantage of the nation's capacity for science-based innovation. And we see NSERC playing a leading role in making all this happen...by investing in people, discovery and innovation.

That's NSERC's vision of an innovative, smart Canada, and our role in it.

For more information on any of NSERC's programs, please consult our Web site, at **www.nserc.ca**, or call (613) 995-1111.



Thomas A. Brzustowski
President
NSERC

INTRODUCTION

The outcome of university research supported by NSERC that has perhaps the most visible impact on the economy is the creation of a company. The "start-up" companies highlighted in this publication have all been started to commercialize the results of research partially funded by NSERC. The 134 companies featured are located in nine provinces. They range in size from recent start-ups with only three employees to well-established firms with thousands of workers. The companies are active in most economic sectors and produce goods and services that have a large impact on the Canadian economy.

The number of employees and annual sales/revenue figures by province are shown in Table 1. Together, these companies employ almost 12,000 Canadians and generate close to $2.4 billion in annual sales/revenue. Table 2 presents a summary by province of key company facts, and indicates the page number for each company.

Unless otherwise indicated, all figures are accurate for August 2002.

Table 1: Start-up Companies by Province

Province	No. of Companies	No. of Employees	Annual Revenue ($millions)[1]
British Columbia	32	3,104	809
Alberta	16	2,381	468
Saskatchewan	8	921	141
Manitoba	1	Confidential	Confidential
Ontario	41	3,673	691
Quebec	24	1,298	195
New Brunswick	2	153	17
Nova Scotia	6	354	54
Newfoundland	4	97	10
Total	134	11,981	$2,385

1. Includes estimate for companies reporting revenue figures as "confidential."

NSERC Research Grants have been renamed Discovery Grants.

NSERC Equipment Grants, Major Equipment Grants and Major Installation Grants have also been renamed. They are now Research Tools and Instruments, Categories 1, 2 and 3, respectively.

Table 2: Start-up Companies

Province/ Company	Year Incorporated	No. of Employees (2002)	2002 Annual Sales/Revenue ($)	Principal Markets	Page Number
British Columbia					
Albacore Research	1991	15	1.0[1]	International	5
Assistive Listening Device Systems	1990	5	Confidential	International	9
Aurora Instruments	1990	Confidential	Confidential	International	10
Barrodale Computing Services	1978	11	Confidential	North America	12
Brooks-PRI Automation Software (fka Brooks Automation Software)	1983	75	18.7[1]	U.S., International	18
Chirologix Pharmaceuticals	1998	6	Confidential	North America	24
Credo Interactive	1996	13	Confidential	North America, Europe, Japan	26
CTF Systems	1970	75	10	Asia, Europe, North America	27
DBMiner Technology	1997	Confidential	Confidential	North America, Europe	30
E-One Moli Energy (Canada) (fka NEC Moli Energy)	1990	350	Confidential	Asia, North America, Europe	45
Forbes Medi-Tech	1993	42	7.9	North America, Europe	48
Galian Photonics	2000	20	Confidential	International	49
GeneMax Pharmaceuticals	1999	8	Confidential	North America	50
JGKB Photonics	2000	15	Confidential	North America	63
Kinetic Sciences	1991	8	1.0	North America	65
Lightyear Technologies	1999	20	Confidential	International	67
MacDonald Dettwiler and Associates	1969	1,400	480[1]	International	70
Membrane Reactor Technologies	1998	10	Confidential	North America	75
Micrologix Biotech	1993	53	2.0	North America	76
MycoLogic	1994	7-9	Confidential	North America	79
NxtPhase	1999	75	Confidential	International	86
Phero Tech	1995	178	23.3[1]	North and South America, Europe, Asia	91
Process Simulations	1994	5	0.5	North America, Europe	98
QLT (fka QLT Therapeutics)	1981	380	130	North America, Europe	100
Quantum Technology	1981	6	1.0	International	103
SynGene Biotek	1996	8	Confidential	International	115
TIR Systems	1982	39	6.1[1]	North America, Europe, Asia	120
Vector 12	2000	12	Confidential	North America	122
Vortek Industries	1976	65	Confidential	International	126
Wavemakers (fka Wavemakers Research)	1993	20	Confidential	International	129

Table 2: Start-up Companies

Province/ Company	Year Incorporated	No. of Employees (2002)	2002 Annual Sales/Revenue ($)	Principal Markets	Page Number
British Columbia (continued)					
Westport Innovations	1995	178	23.3[1]	North and South America, Europe, Asia	131
Wildlife Genetics International	1998	5	0.5	Canada	133
Alberta					
AgriGenomics	1999	6	Confidential	International	4
Biomira	1985	160	13.3	International	14
Boreal Laser	1987	5	Confidential	Canada, U.S., Europe, Australia, New Zealand, Middle East	17
Cell-Loc	1995	40	0.3[1]	International, Canada, U.S.	21
Chenomx	2000	8	Confidential	North America	23
DBR Group of Companies (fka D.B. Robinson and Associates Ltd.)	1976	56	14.0	International	31
Dynastream Innovations	1998	23	Confidential	International	37
Harding Instrument Company	1969	50	6.0	North America	53
Hycal Energy Research Laboratories	1976	40	6.0	International, Domestic	54
ITRES Research	1979	24	3.5	International	62
MBEC Biofilm Technologies	1996	5	Confidential	North America	72
Raylo Chemicals	1966	190	25.0	U.S., Western Europe	105
SemBioSys Genetics	1994	54	Confidential	International	109
Stantec (fka Stantec Consulting)	1954	1,600	356.6	North America, International	113
TelePhotogenics	1996	10	0.3	North America, European Union, Asia Pacific	117
Wi-LAN	1992	110	24.8	International	132
Saskatchewan					
DEL-AIR Systems	1981	100	10.0	North America, Korea, Europe, Australia	32
Droycon Bioconcepts	1987	9	Confidential	U.S., Canada, Europe	35
Kipp & Zonen (fka SCI-TEC Instruments)	1981	22	14.0	International	66
SED Systems	1972	250	40.0	International	108
VEMAX Management	1994	15	Confidential	International	123
Venmar CES	1980	250	Confidential	North America	124
WaveCom Electronics	1988	270	28.0	International	128
Western Ag Innovations	1994	5	Confidential	North America	130

Table 2: Start-up Companies

Province/ Company	Year Incorporated	No. of Employees (2002)	2002 Annual Sales/Revenue ($)	Principal Markets	Page Number
Manitoba					
Quantic EMC (fka Quantic Laboratories)	1993	Confidential	Confidential	International	101
Ontario					
ASK Science Products	1994	4	Confidential	International	8
Biomedical Photometrics	1994	10	Confidential	North America, Japan	13
BIOREM Technologies	1990	9	5.0	North America	15
Certicom	1985	91	19.5	International	22
DALSA	1980	500	114.0	U.S., Europe, Asia	28
Datec Coating	1995	7	0.5	International	29
Dynacon (fka Dynacon Enterprises Limited)	1980	25	3.0	North America, Europe	36
Elstat	1972	5	0.2	North America	39
Engineering Seismology Group Canada	1994	22	Confidential	International	42
Ensyn Technologies	1984	30	Confidential	North/South America, Europe	43
EnviroMetal Technologies	1992	5	1.3	International	44
ESTCO Battery Management (fka ESTCO Energy Inc.)	1995	9	Confidential	North America	46
Hydromantis	1985	30	2.5	North America, Europe, Japan, Korea	55
iAnywhere Solutions	1981	195	Confidential	International	56
iGO Technologies	1998	6	Confidential	North America	57
Imaging Research	1986	50	Confidential	International	58
Innova LifeSciences (fka Innova Technologies)	1992	55	20.0	International	60
LMI Technologies (fka Diffracto)	1971	45	8.0	North/South America, Europe	68
MDS Sciex	1974	450	81.0	International	73
Millenium Biologix	1992	21	4.0	International	77
Molecular Mining	1999	40	Confidential	International	78
New Orbit Technologies	1988	3	0.3	Canada	81
Novator Systems	1992	50	6.6[2]	International	85
Open Text	1991	350	228.6[1]	International	88
Optech	1974	175	Confidential	International	89
Performance Plants	1995	23	Confidential	North America	90
Platform Computing	1992	275	69.9	North America, Europe, Asia	92

Table 2: Start-up Companies

Province/ Company	Year Incorporated	No. of Employees (2002)	2002 Annual Sales/Revenue ($)	Principal Markets	Page Number
Ontario (continued)					
PolyDynamics	1994	3	Confidential	U.S.	93
Polyphalt	1992	15	9.4[1]	International	94
Powerlasers	1979	70	Confidential	Confidential	95
Prescient NeuroPharma (fka IGT Pharma)	1992	17	Confidential	International	96
Pressure Pipe Inspection	1997	25	4.0[2]	International	97
Qubit Systems	1995	10	Confidential	Confidential	104
SatCon Power Systems Canada (fka Inverpower Controls)	1980	65	18.9	North America, Europe, Asia Pacific	106
Sigma Analysis and Management	1999	7	Confidential	North America	111
Simulent	2000	5	Confidential	North America	112
Sybase Waterloo	1981	115	Confidential	International	114
TurboSonic	1976	22	21.5	North America	121
Virtek Vision International	1986	100	30	North America, Europe, Pacific Rim	125
Waterloo Maple	1988	100	Confidential	International	127
ZENON Environmental	1980	634	124.7	International	134
Quebec					
AD OPT Technologies	1987	120	10.0[2]	North America, Australia	1
Advitech Solutions	1996	40	3.5	International	2
AXIS Photonique	1996	5	Confidential	International	11
Bios Agriculture	1996	8	Confidential	North America, Europe	16
BytePress	1999	4	Confidential	International	19
Comlab	1984	16	1.2	Canada, U.S.	25
DEPHY Technologies	1989	10	Confidential	International	33
DiCOS Technologies	2000	26	Confidential	International	34
Elitra Canada (fka Mycota Biosciences Inc.)	1999	20	Confidential	International	38
E.M. Optimisation	1999	5	Confidential	North America	40
GIRO	1979	150	25.0	International	51
Infolytica	1978	24	Confidential	International	59
INRO Consultants	1976	23	3.2	International	61
Kemestrie	1992	42	Confidential	North and South America, Europe	64

Table 2: Start-up Companies

Province/ Company	Year Incorporated	No. of Employees (2002)	2002 Annual Sales/Revenue ($)	Principal Markets	Page Number
Quebec (continued)					
Lumenon Innovative Lightwave Technologies	1998	90	Development Stage	International	69
Médictus Recherche	2001	5	Confidential	Confidential	74
NEOKIMIA	1998	30	Confidential	International	80
Newmerical Technologies International	1998	15	Confidential	International	82
Nexia Biotechnologies	1993	87	Confidential	Domestic, International	83
Pyrovac International	1990	26	Confidential	International	99
Quantiscript	1999	6	Confidential	International	102
Shire BioChem	2001	500+	N/A	Canada	110
Tekna Systèmes Plasma	1990	28	Confidential	International	116
TGN Biotech	2000	18	Confidential	International	118
New Brunswick					
CARIS (fka Universal Systems)	1979	125	12.0[1]	International	20
EM Technologies	1987	28	Confidential	International	41
Nova Scotia					
AMIRIX Systems (fka Applied Microelectronics)	1981	50	5.0	North America	6
Focal Technologies	1983	80	15.0	International	47
MathResources	1996	12	Confidential	International	71
Ocean Nutrition Canada	1987	165	Confidential	North America, Asia	87
Satlantic	1990	40	2.5	International	107
Thermo Dynamics	1981	7	0.8	International	119
Newfoundland					
A/F Protein Canada 2000	2000	10	Confidential	International	3
AQUA Bounty Canada	1994	30	Confidential	International	7
Guigné International	1989	50+	5.0	International	52
Northern Radar	1986	7	Confidential	International	84
TOTAL		**11,991**	**2,385[3]**		

Note 1. 2001.

Note 2. 2000.

Note 3. Includes estimate for companies reporting revenue as "confidential."

AD OPT Technologies Inc.

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Thomas Ivaskiv

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Annual Revenue
$10,060,000 (2000)

Number of Employees in Canada
120

Year Incorporated
1987

Stock Market Listing
Exchange: TSX
Symbol: AOP

Principal Markets
North America, Australia

Industrial Sectors
Transportation, Scheduling, Logistics, Airline, ATC, Healthcare

Web Site
www.ad-opt.com

Products or Services
AD OPT Technologies Inc. is a Montreal-based software company founded in 1987. The company has developed various commercial products based on an optimization system known as GENCOL, which was originally developed by a team of researchers from the Université de Montréal's École des hautes études commerciales and École Polytechnique. The products developed around GENCOL are known as the Altitude™ suite of products, which are targeted for use by the major airlines of the world. Altitude products are used to optimize the scheduling of flights, as well as the pilots and flight crews. By utilizing the GENCOL optimizer, the scheduling process is subjected to mathematical scrutiny to determine the most cost-effective solution, taking into account all constraints (practical and imposed) in determining the solution. Savings up to 15 per cent of operating costs have been realized using these systems. The company has successfully won contracts with Federal Express, UPS, Northwest Airlines, Air Canada and Air Transat, to name a few.

ShiftLogic™, another software developed by AD OPT, is a powerful shift scheduling and management tool. ShiftLogic™ provides the means to produce and evaluate a wide variety of schedules. Specialized optimizers reduce operating costs by scheduling the right number of employees at the right times, thereby minimizing overstaffing and overtime. Clients for ShiftLogic™ include NAV CANADA, Eurocontrol, and the Federal Aviation Administration (FAA), NATS UK, and DFS.

NSERC Researchers
GENCOL software is the result of work done by researchers in the Groupe d'études et de recherche en analyse des décisions (GERAD). GERAD is an interuniversity centre, grouping Montreal's École des hautes études commerciales (HEC), École Polytechnique, McGill University, and the Université du Québec à Montréal. On the team are Drs. Jacques Desrosiers and François Soumis. Dr. Desrosiers is a professor of the management of quantitative methods at HEC. Dr. Soumis is a former director of GERAD and a professor of applied mathematics at École Polytechnique. NSERC has supported the research of Drs. Desrosiers and Soumis consistently since 1980. They have received discovery, collaborative research and development, strategic project, and research tools and instruments grants.

Advitech Solutions Inc.

Chief Executive Officer
Renaud Beauchesne

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Annual Revenue
$3,500,000

Number of Employees in Canada
40

Year Incorporated
1996

Stock Market Listing
N/A

Principal Markets
International

Industrial Sectors
Pharmaceuticals and Food

Web Site
www.advitech.com

Products or Services

Most of us think of milk as a healthy food, but perhaps not as a health food. Advitech Solutions Inc. is changing that. The company is commercializing techniques to extract the most valuable ingredients in milk, which have applications in the health food, pharmaceutical, nutriceutical, and cosmetic industries. Some of the most interesting ingredients Advitech works with are called milk protein hydrolysates. Advitech is developing protein-enriched foods for use in weight loss clinics. Advitech Solutions' medium-term goal is to develop bioactive peptides for applications linked to the prevention of obesity and related diseases, as well as for immune system stimulation.

NSERC Researchers

Advitech Solutions Inc. founders Sylvie Gauthier, Paul Paquin and Yves Pouliot are members of the Centre de recherche en sciences et technologie du lait (STELA) at Université Laval's Département des sciences des aliments et de nutrition. Drs. Gauthier and Pouliot are funded by NSERC discovery grants. Dr. Gauthier is a member of Christophe Lacroix's Research Network for Lactic Bacteria.

A/F Protein Canada 2000 Inc.

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Dr. Garth Fletcher

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Annual Revenue
Confidential

Number of Employees in Canada
10

Year Incorporated
2000

Stock Market Listing
N/A

Principal Markets
International

Industrial Sectors
Pharmaceuticals, Food

Web Site
www.afprotein.com

Products or Services
A/F Protein Canada 2000 Inc. is the world's only commercial producer of antifreeze proteins. The company extracts and purifies four varieties of antifreeze proteins and glycoproteins from the blood plasma of a variety of fish inhabiting the freezing North Atlantic Ocean. The ability of these proteins to depress the freezing temperature, modify or suppress ice crystal growth, inhibit ice recrystallization and protect cell membranes from cold-induced damage can provide important benefits to the medical, veterinary, aquaculture, cosmetics and food industries. Antifreeze applications in medical and veterinary fields include the cryopreservation of eggs, sperm, and embryos. Research is also under way to improve the low-temperature preservation of organs for human transplant through the use of antifreeze proteins. Antifreeze proteins used in conjunction with cryosurgery can help to destroy malignant tumours. Because of the unique ability of the antifreeze proteins to inhibit recrystallization, the food industry is interested in using the proteins to improve the texture of frozen foods.

A/F Protein Canada 2000, which is a subsidiary of A/F Protein Inc., Waltham Massachusetts, operates from St. John's, Newfoundland.

NSERC Researchers
A/F Protein Canada 2000 Inc. and its subsidiaries were founded to commercialize the discoveries of Drs. Garth Fletcher and Choy Hew. Dr. Fletcher was a professor in the Ocean Sciences Centre at Memorial University of Newfoundland. Dr. Hew was a professor of clinical biochemistry at the Banting Institute of the University of Toronto and the Hospital for Sick Children. Both Drs. Fletcher and Hew received NSERC discovery and strategic project grants to explore and develop antifreeze protein technology.

AgriGenomics Inc.

President and Chief Executive Officer
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Annual Revenue
Confidential

Number of Employees in Canada
6

Year Incorporated
1999

Stock Market Listing
N/A

Principal Markets
International

Industrial Sectors
Agricultural Biotechnology

Web Site
www.agrigenomics.ca

Products or Services

AgriGenomics Inc. is developing and field-testing technologies designed to increase crop yield. Its technologies have the added benefit of reducing the chemical inputs required to achieve high plant growth. AgriGenomics' technologies are of tremendous value, not only to the agriculture industry, but also to the forestry and turf grass industries.

AgriGenomics' technology focuses on the root system, also known as the plant-soil interface. The company is working on leading-edge genetic and molecular biology techniques to reduce the amount of fertilizers required to grow crop plants, and to enable plants to grow in areas prone to drought and salinity.

Nitrogen is the most important factor affecting crop growth worldwide. Globally over 85 million tons of nitrogen are used each year at a cost of approximately $35 billion. Nitrogen-based fertilizers typically account for 40 per cent of the costs associated with production of crops like corn and wheat. AgriGenomics has patented a gene that increases the efficient use of nitrogen in plants, enabling them to flourish despite low nitrogen levels in the soil. Ultimately, this will reduce the expense of adding nitrogen-based fertilizers.

The goal of AgriGenomics is to reduce the amount of chemical inputs, such as nitrogen-based fertilizers, fungicides and insecticides, required to grow crops, thus reducing the amount of pollutants in the soil, air, and water.

NSERC Researchers

Dr. Allen Good, president and CEO of AgriGenomics Inc., is a professor in the Department of Biological Sciences at the University of Alberta. Dr. Good discovered that a number of the transgenic plants he produced displayed enhanced nitrogen efficiency and utilization. This research, funded by an NSERC strategic project grant and an NSERC/Agriculture and Agri-Food Canada grant, was the basis for starting AgriGenomics. Dr. Good has received NSERC discovery, research tools and instruments, strategic project, and collaborative research and development grants.

Albacore Research Ltd.

President
Rolf Oetter

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Annual Revenue
$1,000,000 (2001)

Number of Employees in Canada
15

Year Incorporated
1991

Stock Market Listing
N/A

Principal Markets
International

Industrial Sectors
Manufacturing, Marine Technologies

Web Site
www.shipconstructor.com

Products or Services
Albacore Research Ltd. (ARL) develops ShipConstructor for 3D product modeling of offshore structures and ships. ShipConstructor runs within AutoCAD to model structure, pipe, outfit, and shell plate. Further functions include automatic nesting, linear profile and pipe nesting, assembly drawings, spool drawings and complete build strategy planning.

The ShipConstructor database utilizes an SQL server to provide industrial strength performance and data security for clients' valuable project data. A complete reporting system provides accurate reports at any time. ShipConstructor's ingenious design allows AutoCAD-experienced people to be modelling effectively within one or two days of training, while full training for all program modules takes two to three weeks.

NSERC Researchers
Albacore Research Ltd. was founded by Doug Dark, Doug Blake, Rolf Oetter, ARL's president, and Dr. Geoffrey W. Vickers, professor of mechanical engineering at the University of Victoria. Dr. Vickers' research on robotics in the shipbuilding industry was supported by an NSERC discovery grant. His current research interests lie in CAD/CAM and advanced manufacturing.

AMIRIX Systems Inc.

Chief Executive Officer
Sandra Greer

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Annual Revenue
$5,000,000

Number of Employees in Canada
50

Year Incorporated
1981

Stock Market Listing
N/A

Principal Markets
North America

Industrial Sectors
Electronics

Web Site
www.amirix.com

Products or Services
AMIRIX Systems Inc., formerly known as Applied Microelectronics Inc., offers customized embedded systems design services by combining expertise in hardware, embedded software and systems integration with intellectual property. The company's design solutions are flexible, time-to-market efficient and cost effective, and can be found in telecommunications platforms as well as defence, aerospace and medical applications. AMIRIX tackles complex design challenges by performing in-depth system architecture analysis and creating the best possible solutions without any specific hardware or software bias. An ISO 9001 certified company, AMIRIX uses proven project management processes and methodologies to ensure customer requirements are met in a timely manner.

To provide customers with even more value, AMIRIX has formed strategic alliances with electronics manufacturing services companies to offer turnkey, "idea to market" product development solutions. The goal is to shorten development time, optimize manufacturing processes, reduce parts count, and ultimately reduce customer costs.

To keep projects progressing smoothly, the company uses a Flexible Release Model that employs a waterfall or iterative approach to suit individual projects. Based on PMBoK 1996-2000 from the Project Management Institute, AMIRIX's documented processes and methodologies have been proven across numerous implementations.

NSERC Researchers
AMIRIX Systems Inc. was founded by Dr. Douglas Pincock, a former professor of electrical engineering at the Technical University of Nova Scotia, now part of Dalhousie University. Dr. Pincock's research on underwater telemetry was supported by NSERC through discovery and research tools and instruments grants.

AQUA Bounty Canada Inc.

Chief Executive Officer
Garth Fletcher

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Annual Revenue
Confidential

Number of Employees in Canada
30

Year Incorporated
1994

Stock Market Listing
N/A

Principal Markets
International

Industrial Sectors
Biotechnology and Aquaculture

Web Site
www.aquabounty.com

Products or Services
AQUA Bounty Canada Inc. is developing rapidly growing transgenic brood stocks of Atlantic salmon and rainbow trout that contain a patented chimeric "all fish" gene construct, consisting of an antifreeze gene promoter linked to a salmon growth hormone gene. These fish grow significantly faster than standard salmon and are capable of reducing the time to market size by a year. This transgenic technology is also being applied to other species, such as tilapia and marine flatfish. AQUA Bounty Canada, which is a subsidiary of Aqua Bounty Farms Inc., in Waltham, Massachusetts, has operations in Newfoundland and Prince Edward Island.

AQUA Bounty's goal is to use biotechnology to improve the productivity of the aquaculture industry. Products currently being developed include growth-enhanced genetically modified salmon, trout, and tilapia. Future research will involve expanding this technology to include enhanced growth, cold and disease resistance in finfish, shrimp and other species.

NSERC Researchers
Aqua Bounty Canada Inc. and its subsidiaries were founded to commercialize the discoveries of Drs. Garth Fletcher and Choy Hew. Dr. Fletcher was a professor in the Ocean Sciences Centre of Memorial University of Newfoundland. Dr. Hew was a professor of clinical biochemistry at the Banting Institute of the University of Toronto and the Hospital for Sick Children. Both Drs. Fletcher and Hew received NSERC discovery and strategic project grants to develop emerging transgenic technology for aquaculture applications.

ASK Science Products Inc.

Chief Executive Officer
Kevin Firth

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Annual Revenue
Confidential

Number of Employees in Canada
4

Year Incorporated
1994

Stock Market Listing
N/A

Principal Markets
International

Industrial Sectors
Scientific Instrumentation

Web Site
www.askscience.com

Products or Services
The efficient and non-traumatic introduction of non-permeant molecules such as peptides, oligonucleotides or drugs can enormously facilitate signal t nsduction, and general cell biology studies. A procedure for doing this, termed *in situ* electroporation, has been developed at Queen's University and marketed by ASK Science Products Inc.

This procedure opens temporary pores on the plasma membrane by means of a precise electrical pulse. The pores rapidly reseal with no detectable damage to the cell. In this way, material can be introduced into a large number of adherent cells simultaneously. Contrary to microinjection, *in situ* electroporation makes biochemical experiments requiring several million cells possible. In a modified version, *in situ* electroporation can be used for the study of gap junctional, intercellular communication.

NSERC Researchers
The co-founders of ASK Science Products Inc. are Queen's University microbiology and immunology professor Leda Raptis and design engineer Kevin Firth. The development of the electroporation apparatus is a direct result of Dr. Raptis' NSERC strategic project grant. Mr. Firth is responsible for the design and construction of the apparatus.

Assistive Listening Device Systems Inc.

Chief Executive Officer
Paul Geyer

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Annual Revenue
Confidential

Number of Employees in Canada
5

Year Incorporated
1990

Stock Market Listing
N/A

Principal Markets
International

Industrial Sectors
Medical Devices and Instrumentation

Web Site
www.alds.com

Products or Services
Assistive Listening Device Systems Inc. (ALDS) is improving accessibility and quality of life for hard of hearing, deafened, and deaf people through the design, manufacture, and distribution of unique technologies. Its products include infrared transmitters and receivers, telephone handset testers, a telephone training system for hearing aid and Teletypewriter (TTY) users, and a computerized note-taking system. ALDS transmitters, including the Porta-IR and the Porta-IR Compact, are on the leading edge of portable infrared assistive listening technology, providing a clear and intelligible reproduction of the original sound. The PortaCap is a computerized note-taking and print-interpreting system that is user friendly, portable, and affordable. ALDS is continually evaluating new methods and developing innovative devices that help to restore independence to the hearing impaired.

NSERC Researchers
Dr. Charles Laszlo, Chairman of Assistive Listening Device Systems Inc., founded the company in 1990 with Paul Geyer, its President and CEO. Dr. Laszlo is a Professor Emeritus in the Department of Electrical Engineering at the University of British Columbia, and Mr. Geyer is one of his former students. Dr. Laszlo also established the Institute for Hearing Accessibility Research (IHEAR) at the University of British Columbia in 1993. He specializes in biomedical signal processing, speech analysis and synthesis. NSERC has supported Dr. Laszlo's research through discovery grants.

Aurora Instruments Ltd.

Chief Executive Officer
Dr. Dong C. Liang

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Annual Revenue
Confidential

Number of Employees in Canada
Confidential

Year Incorporated
1990

Stock Market Listing
N/A

Principal Markets
International

Industrial Sectors
Manufacturing Equipment

Web Site
www.aurora-instr.com

Products or Services
Aurora Instruments Ltd. specializes in the development, production and sale of atomic absorption spectrometers and other analytical instruments. Aurora's products have appeared in a number of journal articles and on the cover of such publications as *Spectroscopy* and *Chemical Engineering News* since the debut of its patented Capacitively Coupled Plasma source at Chicago's 1991 Pittcon conference. Aurora's AI 1100 and 2100 Atomic Absorption/Plasma Emission Spectrometers feature unmatched performance, outstanding durability, a 3D autosampler, powerful Windows-based software and unique applications. Aurora's diverse product line can cover an entire laboratory's needs in elemental analysis, including environmental, mining, metallurgical, semiconductor, food, educational, medical, energy, utility, and agricultural laboratories.

With the help of NSERC funding, Dr. Dong Liang developed Aurora Instruments' Capacitively Coupled Plasma (CCP) source. CCP combines the merits of GFAAS (Graphite Furnace Atomic Absorption Spectrometry) and ICP-AES (Inductively Coupled Plasma-Atomic Emission Spectroscopy) to produce a highly sensitive yet cost-effective method of analysis.

NSERC Researchers
The co-founders of Aurora Instruments Ltd. are Dr. Dong Liang and chemistry professor Dr. Michael Blades from the University of British Columbia. Dr. Liang has more than 25 years' experience in analytical instrumentation techniques. Dr. Blades has received several NSERC discovery, and research tools and instruments grants over the past twenty years. His research interests involve the development and application of optical and mass spectroscopic methods for chemical analysis.

AXIS Photonique Inc.

President
Dr. Christian-Yves Côté

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Annual Revenue
Confidential

Number of Employees in Canada
5

Year Incorporated
1996

Stock Market Listing
N/A

Principal Markets
International

Industrial Sectors
Research Laboratories

Web Site
www.axis-photon.com

Products or Services

AXIS Photonique Inc. develops and manufactures a new laser-triggered detection system for scientists who use femtosecond lasers to induce or probe ultrafast phenomena in matter.

This revolutionary technology involves a streak camera that can measure light pulses (visible to x-rays) on the femtosecond time scale. A femtosecond is all of one quadrillionth of a second.

AXIS Photonique's ultrafast detection systems are presently in use in many research laboratories in Canada, France, Britain, Germany, and the U.S.

NSERC Researchers

AXIS Photonique Inc. was created by Dr. Christian-Yves Côté, a former doctoral student in Dr. Jean-Claude Kieffer's research laboratory at the Institut national de recherche scientifique (INRS) — Énergie et Matériaux, where the development of femtosecond streak cameras was supported by NSERC. Dr. Kieffer, a professor at the INRS, has been supported by NSERC strategic project, discovery, and research tools and instruments grants. Dr. Côté, now AXIS' president, received an NSERC Postgraduate Scholarship and a University Undergraduate Student Research Award. AXIS Photonique is also a partner in the Canadian Institute for Photonics Innovations, a Network of Centres of Excellence.

Barrodale Computing Services Ltd.

Chief Executive Officer
Dr. Ian Barrodale

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Annual Revenue
Confidential

Number of Employees in Canada
11

Year Incorporated
1978

Stock Market Listing
N/A

Principal Markets
North America

Industrial Sectors
Information Technology

Web Site
www.barrodale.com

Products or Services

Barrodale Computing Services Ltd. (BCS) has been providing effective and efficient software solutions to technical problems involving complex data since 1978.

Clients' applications continue to be in diverse areas, such as defence sciences, electoral geography, aerospace, forestry, seismic processing, and watershed management. As well, BCS has successfully completed more than 350 software development contracts for many different clients in the public and private sectors, including ministries and Crown corporations of the Government of British Columbia, Canadian federal government departments, and U.S.-based Fortune 500 companies.

Since 1995, BCS has focused its development skills and experience in object-relational database management systems (ORDBMS) to provide solutions for various geo-spatial applications. For example, the company has produced an interactive watershed atlas of British Columbia. This 1:20,000 digital atlas, which contains more than half a billion 3D survey points, one million lakes/marshes/swamps, and three million stream segments, is stored in an ORDBMS that can be accessed via the Web.

Another recent ORDBMS geo-spatial application is a British Columbia electoral atlas that contains an integrated network of roads, municipal boundaries, electoral-district and voter-area boundaries, as well as extensive background data, including hydrography, railways, transmission lines, parks and Indian reserves. BCS has developed a comprehensive set of facilities for geo-coding, data management, and map production, all using this electoral atlas data.

Most recently, the company has developed a very efficient ORDBMS technology that supports database storage, update, and fast retrieval of gridded data. A typical application could extract location-specific meteorological data from a 4D gridded database that contains multiple weather-related values stored for extensive ranges of latitude, longitude, altitude and time. Other applications could involve multi-dimensional grids of oceanographic, seismic, geomatic, or medical data.

NSERC Researchers

Barrodale Computing Services is wholly owned by its two founders, Ian and Sheila Barrodale. Dr. Ian Barrodale was formerly a professor of mathematics and founding chair of the Computer Science Department at the University of Victoria. His research was supported by NSERC through discovery grants.

Biomedical Photometrics Inc.

Chief Executive Officer
Dr. A.E. Dixon

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Annual Revenue
Confidential

Number of Employees in Canada
10

Year Incorporated
1994

Stock Market Listing
N/A

Principal Markets
North America, Japan

Industrial Sectors
Imaging Systems

Web Site
www.confocal.com

Products or Services
Biomedical Photometrics Inc. markets a series of products based on patented confocal imaging technology developed within the company and at the University of Waterloo.

The GeneFocus® Division was set up to address the genetic microarray and drug discovery marketplace. The DNAscope™ IV, V and LM are designed to read genetic microarrays on glass microscope slides, and the Open Frame Research DNAscope™ is used to develop imaging systems for new microarray technologies. A new confocal microwell plate reader has recently been developed for drug discovery applications.

Biomedical Photometrics Inc. has also commercialized the MACROscope®, a confocal imaging system with a wide range of magnification. One application is tissue imaging, where the combination of very large sample size and very high resolution in fluorescence makes it particularly useful for imaging biopsy specimens. The MACROscope® has opened up new applications for confocal imaging in biomedicine, semiconductor materials and device characterization, geological sciences, forensic science, cancer detection, and quality control testing. For example, in the fields of materials science and forensics, the MACROscope® can be used for latent fingerprint detection, counterfeit detection, as well as for 3D imaging and comparison of footprints.

NSERC Researchers
Dr. A.E. Dixon, a Professor Emeritus in the Department of Physics at the University of Waterloo, founded Biomedical Photometrics Inc. with optometry professor Dr. Melanie Campbell, and Dr. Brian Wilson of the University Health Network, Ontario Cancer Institute, to commercialize the MACROscope® technology, which was developed with colleague Dr. Savvas Damaskinos. Dr. Dixon has been supported for over 20 years with NSERC discovery, collaborative research and development, and strategic project grants. Dr. Campbell has also received NSERC discovery, research tools and instruments, and strategic project grants. Dr. Wilson has been funded by grants from NSERC.

Biomira Inc.

Chief Executive Officer
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Annual Revenue
$13,300,000

Number of Employees in Canada
160

Year Incorporated
1985

Stock Market Listing
Exchange: TSX
Symbol: BRA
Exchange: Nasdaq
Symbol: BIOM

Principal Markets
International

Industrial Sectors
Biotech, Pharmaceuticals, Vaccines, Medicine

Web Site
www.biomira.com

Product or Service
Established in 1985 by two University of Alberta researchers, Biomira Inc. is now one of the largest biotechnology companies in Canada. Biomira is applying its leading technology in immunotherapy and organic chemistry to the development of cancer therapeutics. The company's commitment to the development of products for the treatment of cancer is currently focused on synthetic therapeutic vaccines and innovative strategies for immunotherapy of cancer. Biomira's motto is: We are the Cancer Vaccine People™.

Biomira's lead product candidate, THERATOPE® vaccine, completed enrolment of the largest immunotherapeutic trial ever conducted in women with metastatic breast cancer. The trial, involving 1,030 women in over 120 clinical sites, completed enrolment in March 2001. The patients are now being followed to determine clinical benefit. THERATOPE® vaccine is also being used in a Phase II trial for colorectal cancer. Biomira's BLP25 vaccine is enrolling patients in a Phase IIb trial for metastatic lung cancer and a Phase II trial for prostate cancer. Biomira has a collaborative agreement with Merck KGaA for its two lead product candidates.

NSERC Researcher
Biomira Inc. was co-founded by immunologist Dr. Michael Longenecker and pharmacologist Dr. Antoine Noujaim of the University of Alberta. Dr. Noujaim has been supported through NSERC strategic project grants for his research on radio immunoconjugates, once used in some of Biomira's products.

BIOREM Technologies Inc.

President
Brian P. Herner

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Annual Revenue
$5,000,000

Number of Employees in Canada
9

Year Incorporated
1990

Stock Market Listing
N/A

Principal Markets
North America

Industrial Sectors
Air Pollution Control

Web Site
www.biorem.biz

Products or Services
BIOREM is North America's fastest growing biofilter odour control company. Since introducing BIOSORBENS™, the first completely inorganic ten-year biofilter medium, U.S. sales of custom pre-packaged BIOFILTAIR™ and integrated modular BASYS™ biofilter systems have skyrocketed. Benefits of the revolutionary BIOSORBENS™ media include compact, high-performance equipment for odour and volatile organic (VOC) compound removal, unparalleled reliability, and easy operation and monitoring. With over 40 installations across the country providing the lowest operating and maintenance costs of any odour or VOC control technology, it's easy to understand why BIOREM's BASYS™, BIOFILTAIR™ and SYNERGY™ systems have become North America's favourite biofilter.

Over 40 biofilter projects have been undertaken across North America, in a wide variety of industries and municipal odour control applications. Installations as large as 100,000 cfm (cubic feet per minute) have been undertaken, with projects up to $1,500,000 in value.

NSERC Researchers
BIOREM founder Owen Ward heads the Microbial Biotechnology Laboratory at the University of Waterloo. Dr. Ward has received support from NSERC strategic project, discovery, and collaborative research and development grants. His research now focuses on extracellular enzymes, biotransformations, biodegradation, bioremediation and lipids.

Bios Agriculture Inc.

Chief Executive Officer
Hannah McIver

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Annual Revenue
Confidential

Number of Employees in Canada
8

Year Incorporated
1996

Stock Market Listing
N/A

Principal Markets
North America, Europe

Industrial Sectors
Agriculture and Food

Web Site
www.biosagriculture.com

Products or Services

Some people swear that talking to their plants makes the plants thrive. Bios Agriculture Inc. has evidence that for some plants the ability to communicate well is essential for prosperity. Although you shouldn't expect to have a witty conversation with your favorite African violet, this kind of communication is helping soybean producers increase their yields by up to 20 per cent.

Normally, a chemical signal from a legume's roots summons symbiotic bacteria, which send a return signal. This process helps the roots to prepare for and form nodules. The rhizobial bacteriods in these nodules enable the roots to absorb nitrogen from the soil — a process known as nitrogen fixation — and feed the plant. In unfavourable environments, the root system of the legume plant has trouble sending out the signals, which is part of the reason why legumes grown in northern climates are less productive. But with the Bios treatments, the message is sent out "loud and clear."

Using Bios' proprietary signal material, the message is "amplified," so nitrogen fixation happens earlier and at greater levels. This increases harvests by 5 to 10 per cent. The benefits of the Bios technology aren't limited to yield. It's also environmentally beneficial. The nitrogen-enriched leaves and stems can be tilled into the ground, returning the nitrogen to the soil. When cereal is planted following a nitrogen fixation crop, for example, less fertilizer is required. Not only does this reduce the producer's costs, it also reduces the potential problems associated with the use of nitrogen fertilizer.

NSERC Researchers

The "signal" technology licensed to Bios Agriculture Inc. was developed by Dr. Donald Smith, a professor of plant science at McGill University, and Dr. Feng Zhang, a research scientist at Bios. Dr. Smith is involved in the development of good production practices through the study of nitrogen fixation in plants. NSERC has supported his work through discovery, strategic project, research tools and instruments, and collaborative research and development grants.

Boreal Laser Inc.

Chief Executive Officer
Jack Ondrack

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Annual Revenue
Confidential

Number of Employees in Canada
5

Year Incorporated
1987

Stock Market Listing
N/A

Principal Markets
Canada, U.S., Europe, Australia, New Zealand, Middle East

Industrial Sectors
Sensing and Detecting, Energy, Environmental Technologies

Web Site
www.boreal-laser.com

Products or Services
Boreal makes laser-based gas detectors, portable or fixed, for methane, carbon dioxide, ammonia, hydrogen fluoride, hydrogen sulphide, hydrogen cyanide and other gases. Patented technology enables these detectors to be remarkably small and inexpensive. Applications include leak detection, process control and monitoring of emissions in upstream oil and gas facilities, refineries, aluminium smelters, fertilizer plants, power plants, mines and agricultural operations. Boreal also provides ultra-fast response methane detectors for detecting gas pipeline leaks from aircraft. Using CO_2, CH_4 or N_2O measurements, simultaneous meteorological data and the EPA's ISCST3 model, Boreal provides greenhouse gas emission measurements for industry, in many instances replacing estimates subject to large errors. At the December 1997 Kyoto conference, Boreal measured methane emissions from the Environment Canada booth. Thanks to such exposure, Boreal has been able to export its technology abroad, measuring emissions for foreign companies interested in trading greenhouse gas credits.

NSERC Researchers
Electrical engineering professor John Tulip is a founder of Boreal Laser. His research at the University of Alberta has been supported by NSERC through discovery, strategic project, research tools and instruments, and infrastructure grants.

Brooks-PRI Automation Software Corporation

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Annual Revenue
$18,700,000 (2001)

Number of Employees in Canada
75

Year Incorporated
1983

Stock Market Listing
Exchange: Nasdaq
Symbol: BRKS

Principal Markets
U.S., International

Industrial Sectors
Manufacturing Equipment

Web Site
www.brooks-pri.com

Products or Services
Brooks-PRI Automation Software Corporation is a subsidiary of Brooks-PRI Automation Inc. of Chelmsford, Massachusetts, and the leading supplier of equipment control solutions for the semiconductor industry. Brooks-PRI Automation Software has over 1,500 installations worldwide and 15 years of field-proven experience working with R&D, production, and equipment manufacturing facilities.

Brooks-PRI Automation Software Corporation delivers total automation. The company's hardware, software and services can manage every wafer, reticle, and data movement in a fabrication facility, helping semiconductor manufacturers accelerate time-to-market while reducing their risk. The company's products can be found in virtually every fabrication facility in the world.

In addition to corporate facilities in Chelmsford, Massachusetts, Brooks-PRI Automation Software Corporation maintains a software subsidiary in Richmond, British Columbia, as well as sales and service offices in the U.S., Europe, Japan, Korea, and Taiwan.

NSERC Researchers
Brooks-PRI Automation Software Corporation, originally known as Techware Systems, was founded by Richard McMahon from research conducted in the engineering physics lab at the University of British Columbia. Mr. McMahon designed the original control system for his master's thesis, which was supervised by Dr. Robert Parsons, a physics professor specializing in materials testing and coatings. Dr. Parsons received an NSERC collaborative research and development grant in part to develop a prototype controller. This grant helped Mr. McMahon to continue the technical research. He also received an NSERC postgraduate scholarship while undertaking his master's degree. Dr. Parsons has received NSERC support through discovery, research tools and instruments, and strategic project grants. Brooks-PRI Automation Inc. acquired Techware in 1996.

BytePress

Chief Operating Officer
Dr. Bipin C. Desai

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N/A

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Annual Revenue
Confidential

Number of Employees in Canada
4

Year Incorporated
1999

Stock Market Listing
N/A

Principal Markets
International

Industrial Sectors
Software, Music Industry, Technical Literature

Web Site
www.bytepress.com

Products or Services
BytePress specializes in security technology designed to protect entertainment information on-line. As file-sharing Web services continue to allow access to copyrighted material at no cost, record company executives, on-line retailers, and digital service providers are urgently seeking a solution to the problem. BytePress has the answer.

BytePress' Digital Right Management (DRM) system is a groundbreaking data encryption tool. DRM will protect and limit access to copyrighted digital content available on the Internet. This includes music, movies, software, and technical literature.

BytePress intends to publish its own encrypted material on-line, and has recently perfected a demonstration of the DRM technology aimed at the entertainment industry.

NSERC Researchers
Dr. Bipin C. Desai is an expert in digital rights management, digital libraries, computer architecture, and database information systems. He is a professor of computer science at Concordia University and general chair of IDEAS — an ongoing series of international symposia on database engineering and application. Dr. Desai is a member of the International Electronic and Electrical Engineering Computer Society and has published a popular database systems textbook. In addition to various industrial and governmental grants and contracts, Dr. Desai has received NSERC discovery grants.

CARIS

Chief Executive Officer
Dr. Salem Masry

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Annual Revenue
$12,000,000 (2001)

Number of Employees in Canada
125

Year Incorporated
1979

Stock Market Listing
N/A

Principal Markets
International

Industrial Sectors
GIS, Geomatics, Spatial Information

Web Site
www.caris.com

Products or Services
CARIS, formerly known as Universal Systems Ltd., has been developing and providing spatial information as well as geographic information systems (GIS) solutions for marine and land-based industries for more than 20 years. Over the years, the company has developed a comprehensive set of software products for clients in more than 70 countries.

The company maintains expertise in four key areas in which its CARIS-brand technology gives it a competitive advantage. These rapidly growing markets are Land Information Systems/Geographic Information Systems; Marine Information Systems; Spatial Components; and Projects. Thanks to this structure, CARIS is better able to focus on the needs of each of these areas and provide superior solutions for its users.

Incorporated in 1979, CARIS is a 100% Canadian-owned company. Its global headquarters is located in Fredericton, New Brunswick, with subsidiary offices in the Netherlands and Maryland, USA. The company has a network of over 40 strategic alliances in 70 countries that provides CARIS solutions, integration, training, and support.

NSERC Researchers
CARIS was founded by Salem Masry, former professor of geodesy and geomatics engineering at the University of New Brunswick. Dr. Masry helped to found the Digital Mapping Laboratory at UNB in the 1980s. NSERC has supported Dr. Masry's research through discovery, infrastructure, and research tools and instruments grants.

Cell-Loc Inc.

President and Chief Executive Officer
Dr. Michel Fattouche

Address
Suite 220 Franklin Atrium
3015 — 5th Avenue NE
Calgary, Alberta
T2A 6T8

Telephone
(403) 569-5700

Fax
(403) 569-5701

Email
info@cell-loc.com

Annual Revenue
$336,000 (2001)

Number of Employees in Canada
40

Year Incorporated
1995

Stock Market Listing
Exchange: TSX
Symbol: CLQ

Principal Markets
International, Canada, U.S.

Industrial Sectors
Wireless Location, High-Tech, Tracking Devices, Safety Devices

Web Site
www.cell-loc.com

Products or Services
Cell-Loc Inc., a leader in the emerging wireless location industry, is the developer of Cellocate™, a family of wireless products that enable location-based services. Cell-Loc uses patented and patent-pending time difference of arrival (TDOA) hyperbolic trilateration to calculate the location of wireless devices such as its own Cellocate Beacon (wireless radio frequency transmitter) and cell phones. This network-based solution provides a low-cost, highly reliable and accurate solution for fleet tracking, asset tracking, people find, pet find, traffic monitoring and a myriad of wireless Internet applications such as enhanced wireless 9-1-1 and location-sensitive directory assistance. Cell-Loc currently develops, markets and supports its patented wireless location technology worldwide.

NSERC Researchers
Cell-Loc Inc. was founded by Drs. Michel Fattouche and Hatim Zaghloul to commercialize their research findings at the University of Calgary's Department of Electrical and Computer Engineering. Dr. Fattouche is a tenured professor of electrical and computer engineering at the University of Calgary and is currently on leave. Dr. Fattouche was supported by NSERC grants and Dr. Zaghloul held an NSERC postgraduate scholarship.

Certicom Corporation

Chief Executive Officer
Ian McKinnon

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L4W 5L1

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Email
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Annual Revenue
US$12.3 million (fiscal year end 2002)

Number of Employees in Canada
91

Year Incorporated
1985

Stock Market Listing
Exchange: TSX
Symbol: CIC

Principal Markets
International

Industrial Sectors
Information Technologies

Web Site
www.certicom.com

Products or Services
Certicom Corporation is a leading provider of information security software and services, specializing in secure mobile access solutions. The company's products and services are designed to address the challenges imposed by a wireless data environment. Certicom's solutions incorporate its efficient encryption technology and are based on industry standards for information security that utilize public key cryptography. Certicom has spent over ten years researching and developing efficient implementations of elliptic curve cryptography (ECC), which is the security technology of choice for devices where processing power and memory are limited. An active participant in international standards organizations, Certicom is also a leader in developing ECC standards by IEEE, American National Standards Institute, Internet Engineering Task Force (IETF) and others.

NSERC Researchers
Certicom Corporation's founders, Drs. Scott Vanstone, Ron Mullin, and Gord Agnew, are researchers at the University of Waterloo and members of the Data Encryption Group at the same university. Drs. Vanstone and Mullin are professors in the Department of Combinatorics and Optimization, one of the world's largest cryptographic mathematics departments. Dr. Agnew is an associate professor in the Department of Electrical and Computer Engineering at Waterloo. Dr. Vanstone currently holds the NSERC/Pitney Bowes Chair and is the executive director for the Centre for Applied Cryptographic Research (CACR). The CACR's mandate is to advance research, research training, university-industry collaboration, and discoveries in the cryptography industry. Dr. Vanstone's research has been supported by NSERC discovery, collaborative project, and strategic project grants. Dr. Mullin, a distinguished emeritus professor, has received NSERC discovery, strategic project, and research tools and instruments grants. Dr. Agnew has been supported by numerous NSERC discovery grants.

Chenomx, Inc.

President and Chief Executive Officer
Neil Taylor

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(780) 432-3388

Email
lquerengesser@chenomx.com

Annual Revenue
Confidential

Number of Employees in Canada
8

Year Incorporated
2000

Stock Market Listing
N/A

Principal Markets
North America

Industrial Sectors
Software

Web Site
www.chenomx.com

Products or Services

Chenomx, Inc. (ke-nO-mics — the company's name is derived from the new and emerging field of chemical genomics) has developed revolutionary new software technology for metabolic profiling to help test the safety of new drug candidates through comprehensive and fast biofluid testing.

Chenomx' proprietary software, called Concurrent Chemical Mixture Analysis (CCMA), is a powerful analytical software that, when combined with nuclear magnetic resonance (NMR) spectroscopy, provides one-step analysis of over 200 compounds in a biofluid mixture. CCMA helps scientists correlate metabolic responses with pathology, toxicity, drug efficacy, and genetics. This process, which once took several hours, now takes only seconds with Chenomx' CCMA software. The software can be used to evaluate therapeutics in drug development, and especially to help speed pharmaceutical drugs to market.

NSERC Researchers

Dr. David Wishart is an associate professor in the Faculty of Pharmacy and Pharmaceutical Sciences at the University of Alberta and Chenomx, Inc.'s scientific director. He initiated and currently leads the company's metabolic profiling software project. Dr. Wishart is world renowned for his research on nuclear magnetic resonance spectroscopy, bioinformatics metabolic profiling, and protein structural biology. NSERC has supported Dr. Wishart's research with discovery grants.

Chirologix Pharmaceuticals Inc.

President and Chief Executive Officer
Hugh MacNaught

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(604) 990-0730

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Annual Revenue
Confidential

Number of Employees in Canada
6

Year Incorporated
1998

Stock Market Listing
N/A

Principal Markets
North America

Industrial Sectors
Pharmaceuticals

Web Site
N/A

Products or Services
Chirologix Pharmaceuticals Inc. designs and synthesizes novel antibacterial compounds intended to address the challenges of drug resistance.

The overprescription and misuse of antibiotics is promoting new strains of bacteria that resist traditional treatments. After only fifty years of using antibiotics, some are no longer able to vanquish such bacteria as *Staphylococcus aureus*, commonly known as Staph infection. Staph is highly virulent and has become the major source of infections acquired in hospitals and seniors residences. Chirologix is developing a new class of antibiotics to fight antibiotic resistance.

Chirologix' compounds are designed to be modified and can potentially identify hundreds of new molecules to be synthesized. This will give Chirologix the ability to develop several new therapies and improve patient outcomes.

NSERC Researchers
Chirologix Pharmaceuticals Inc. was founded by Hugh MacNaught and Saul Wolfe. Dr. Wolfe is the chief scientific officer at Chirologix and Professor Emeritus of Chemistry at Simon Fraser University. Dr. Wolfe holds more than 40 patents, including the process for the production of commercial quantities of ampicillin, a semi-synthetic penicillin. He and his students at Simon Fraser have developed a 3D computer model to allow the design of Chirologix' novel antibacterial agents. NSERC has supported Dr. Wolfe's research with discovery, research tools and instruments, and strategic project grants.

Comlab Inc.

Chief Executive Officer
John Ahern

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G1N 4L2

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(418) 682-8996

Email
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Annual Revenue
$1,200,000

Number of Employees in Canada
16

Year Incorporated
1984

Stock Market Listing
N/A

Principal Markets
Canada, U.S.

Industrial Sectors
Communications

Web Site
www.comlab.com

Products or Services
Comlab Inc. has wide-ranging expertise in the field of electrical engineering, specializing in the areas of telecommunications and radio frequency electronics. Since 1984, the company has played a key role as a strategic partner for several Canadian companies. Comlab's mission is to provide innovative solutions to problems in diverse industries through the application of radio frequency, microwave and electronics technologies.

NSERC Researchers
Comlab Inc. was founded by a team of researchers in the Department of Electrical Engineering at the Université Laval: Drs. Gilles Delisle and Michel Lecours, and research assistants Marcel Pelletier and John Ahern. NSERC has supported Drs. Delisle and Lecours with discovery, strategic project, and research tools and instruments grants for the past twenty years.

Credo Interactive Inc.

President
Sang Mah

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Annual Revenue
Confidential

Number of Employees in Canada
13

Year Incorporated
1996

Stock Market Listing
N/A

Principal Markets
North America, Europe, Japan

Industrial Sectors
Software

Web Site
www.credo-interactive.com

Products or Services
Credo Interactive Inc. is a leading developer of 3D movement animation tools for entertainment, education, multimedia and the arts. The underlying technology for the company's unique Life Forms animation software was developed at Simon Fraser University. The software is an animation tool for human figure and character animation, and has also proven to be highly valuable in sports education, choreography, dance, and multimedia content development. Complex motions such as walking and running can be created very easily, and there is support for motion capture data. The Life Forms technology is non-exclusively licensed to other companies for specialized applications of avatars for 3D on-line environments by Worlds Inc. (U.S.).

Leveraging their roots in award-winning products, Credo also provides customized strategic solutions to create compelling content and technology for applications. The company's expertise ranges from consulting to implementation of everything having to do with 3D character animation. This includes 3D virtual environments, characters and avatars, gaming development, and wireless communication. Credo is active in project consulting, production services, contract software development and technology partnerships.

NSERC Researchers
Life Forms software was invented by Tom Calvert and his team of graduate students at Simon Fraser University. This research project was initially a collaboration between Dr. Calvert and dance teacher Catherine Lee, supported by NSERC and the Social Sciences and Humanities Research Council of Canada. Dr. Calvert has received NSERC support through discovery, infrastructure, and research tools and instruments grants. He is now developing intelligent support systems software to take over the more tedious and routine tasks of animation.

CTF Systems Inc.

Chief Executive Officer
Barry Allen

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Annual Revenue
$10,000,000

Number of Employees in Canada
75

Year Incorporated
1970

Stock Market Listing
N/A

Principal Markets
Asia, Europe, North America

Industrial Sectors
Medical Devices and Instrumentation

Web Site
www.ctf.com

Products or Services
CTF Systems Inc. manufactures advanced, whole-head magnetoencephalographic and electroencephalographic (MEG/EEG) systems, for use in both clinical and research environments. CTF's most advanced system features 275 MEG and 64 EEG channels, measured simultaneously. Systems have also been built for many other fields of interest, including geophysical and military applications.

Most of the company's products are based on SQUID (Superconducting Quantum Interference Device) sensors. These devices detect minute magnetic fields and are particularly useful in brain scanning procedures. Major markets are in Asia, Europe and North America.

Combined with EEG, MEG gives the most precise functional information on the brain's electrophysiology. Unlike other functional brain imaging technologies, MEG systems are completely non-invasive and pose no risk to the patient. MEG may be used for pre-surgical functional mapping; assessment of pathological functional deficits; neuropharmacological investigations; trauma assessment; epileptic assessment; and a growing list of research investigations in neuroscience and psychiatry.

CTF is a subsidiary of VSM MedTech Ltd., a Vancouver-based medical equipment company.

NSERC Researchers
CTF Systems Inc. was founded by the Simon Fraser University physics team of Rudolph Haering, Max Burbank, and Randy Lomnes. Dr. Haering received substantial NSERC support before retiring in 1985. Members of the Surface Physics Lab who helped in the research of the technology developed by CTF — Drs. Charles Irwin, Bret Heinrich, and Albert Curzon — also receive NSERC discovery, and research tools and instruments grants. CTF has co-sponsored NSERC collaborative research and development projects at the Surface Physics Lab and the Brain Behaviour Lab, where Dr. Harold Weinberg, also an NSERC grantee, has investigated the neuromagnetic functioning of the brain using a whole-head magnetoencephalography (MEG) unit developed by CTF.

DALSA Corporation

Chief Executive Officer
Dr. Savvas Chamberlain

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Email
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Annual Revenue
$114-126 million (2002)

Number of Employees in Canada
500

Year Incorporated
1980

Stock Market Listing
Exchange: TSX
Symbol: DSA

Principal Markets
U.S., Europe, Asia

Industrial Sectors
Imaging Devices, Semiconductor Wafer Foundry Services

Web Site
www.dalsa.com

Products or Services
DALSA Corporation is an international high-performance semiconductor and electronics company that designs, manufactures, and markets digital imaging products and solutions, in addition to providing wafer foundry services. DALSA's core competencies are in specialized integrated circuit and electronics technology, and highly engineered semiconductor wafer processing. Products include image sensor components, electronic digital cameras, and semiconductor wafer foundry services for use in micro electro-mechanical systems, power semiconductors, image sensors and mixed signal complementary metal oxide semiconductor chips.

DALSA's digital imaging products are designed to replace human vision and act as high-performance "electronic eyes" in machine vision. DALSA's semiconductor products are found in digital x-ray machines, as well as medical and manufacturing equipment. They serve to steer telecom traffic, sense and actuate the environment in automotive and fibre optic telecom, manage power in electronic systems, and are the heart of the silicon chips used in many other industrial applications. DALSA's continually expanding markets include semiconductors, life sciences, machine vision, professional imaging and digital cinema. DALSA sells to original equipment manufacturers, fabless semiconductor manufacturers, end users, and to the scientific and research communities in Canada, the United States, Europe, Japan, and Asia Pacific.

NSERC Researchers
DALSA Corporation was initially founded as a consulting firm by Drs. Savvas Chamberlain and David Roulston of the Department of Electrical and Computer Engineering at the University of Waterloo. Both researchers are specialists in microelectronics and integrated circuit design. Dr. Roulston withdrew from the company in 1983 to focus on his research, while Dr. Chamberlain capitalized the company in 1984 and later expanded it. Both Drs. Chamberlain and Roulston received NSERC support through discovery grants. Dr. Chamberlain is a Fellow of the IEEE, a member of Micronet, and a winner of the NSERC-Information Technology Association of Canada award for academic excellence. He has published more than 150 papers in refereed scientific journals and professional conferences. Also, he is the author or co-author of a number of patents in the Charge-Coupled Device (CCD) image sensor area. In the technical and scientific community, he is a recognized pioneer in the area of CCDs, Metal Oxide Semiconductor/Field Effect Transistors (MOSFETs) and active pixel sensor technology.

Datec Coating Corporation

President
David Barrow

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Annual Revenue
$500,000

Number of Employees in Canada
7

Year Incorporated
1995

Stock Market Listing
N/A

Principal Markets
International

Industrial Sectors
Appliances, Plastics, Automotive and Aerospace

Web Site
www.dateccoating.com

Products or Services
Datec Coating Corporation offers a new process for producing high-quality ceramic coatings. The Datec process can be used to improve the performance of existing materials or to create new, innovative products.

Ceramics are typically hard, inert materials that do not rust, wear or wet as easily as metals. By depositing a ceramic layer on the surface of metallic components, Datec can extend the service life or enhance the performance of metallic materials that operate in hazardous environments. Datec has also used its novel technology to create a range of ceramic coatings capable of generating heat. The company has initiated an extensive research program aimed at developing highly efficient heating elements where the heater is a coating directly attached to the material being heated. This low-profile design improves efficiency and performance and allows for the possibility of new designs. Applications for the Datec process range from household appliances and cookware to the automotive, plastics and aerospace industries.

The Datec process involves applying a special ceramic solution or paint to metallic objects and then firing the coated piece at 350°C to bond the two together. The paint can be deposited by spraying, screen-printing, dip-coating or using a paintbrush. The low firing temperature allows the coating to be applied to a wide range of materials, including soft metals such as aluminum and magnesium (both of interest to the automotive industry for lightweight cars). Datec technology has applications in four key sectors: the appliance industry (heating elements), the plastics industry (non-stick coatings), and the automotive/aerospace industries (thermal barriers and corrosion protective layers).

NSERC Researchers
Datec Coating Corporation's ceramic coating process was invented by Dr. Michael Sayer and his students, Drs. David Barrow, Datec's president, and Ted Petroff, the company's vice-president. NSERC's technology partnerships program helped with the commercialization of their invention. Dr. Sayer, Professor Emeritus of Physics and head of the Applied Solid State Research Group at Queen's University, has received NRC/NSERC grants since 1962. Dr. Sayer, Datec and Queen's University were recognized for the development of the Datec ceramic coating process with a 2001 NSERC Synergy Award for Innovation.

DBMiner Technology Inc.

Chief Operating Officer
Ping Quin

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Research Laboratory
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Email
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Annual Revenue
Confidential

Number of Employees in Canada
Confidential

Year Incorporated
1997

Stock Market Listing
N/A

Principal Markets
North America, Europe

Industrial Sectors
Data Analysis, Data Mining

Web Site
www.dbminer.com

Products or Services

DBMiner Technology Inc. researches and develops data mining and data warehousing technology. It is a leading provider of automated and real-time on-line analytical processing (analytic) solutions for business performance measurement, customer management, and market analysis.

In 2002, Microsoft selected DBMiner as a data mining partner for the SQL Server Accelerator for Business Intelligence, a rapid application development tool. DBMiner's Insight, the world's first analytical servers powered by data mining on the Microsoft SQL Server 2000 Analysis platform, will provide powerful, scalable and easy-to-use analytics to customers using SQL Servers.

DBMiner provides enterprise users with powerful capabilities to extract more value and knowledge from their business and operational data to make insightful decisions. The DBMiner systems automatically analyzes patterns and trends of cross-selling, up-selling, profit optimization, cost reduction for commerce transactions, sales and marketing, customer relationships, customer support, and defect correlations.

The company's customers include Boeing, Hewlett-Packard, and London Drugs.

NSERC Researchers

Dr. Jiawei Han, DBMiner Technology Inc.'s director of R&D, is a professor of database, data mining, and data warehousing at the University of Illinois at Urbana-Champaign. Dr. Han is also the director of the Intelligent Database Systems Research Laboratory, and a professor in the School of Computing Science at Simon Fraser University. Dr. Han developed a prototype of DBMiner's data mining system at Simon Fraser University with research funds from NSERC and the Institute for Robotics and Intelligent Systems (IRIS), a network of the Networks of Centres of Excellence program. NSERC has consistently supported Dr. Han's research into database systems and data mining with discovery, research tools and instruments, and collaborative research and development grants. Dr. Han has published over 150 research papers and is the author of best selling book *Data Mining: Concepts and Techniques*.

Dr. Martin Ester, DBMiner's technology advisor, is an associate professor in the School of Computing Science at Simon Fraser University. Dr. Ester's intelligent analysis and data mining research is partly supported by NSERC discovery grants.

DBR Group of Companies

Chief Executive Officer
Dr. Fred. D. Otto

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Annual Revenue
$14,000,000

Number of Employees in Canada
56

Year Incorporated
1976

Stock Market Listing
N/A

Principal Markets
International

Industrial Sectors
Energy

Web Site
www.dbrgroup.com

Products or Services
The DBR Group of Companies is a dynamic, internationally recognized consortium dedicated to providing innovative and quality phase behaviour and fluid property technology to the petroleum and petrochemical industries. The company's specialties — fluid analysis and property measurement of hydrocarbon fluids — reflect the expertise of its founder, Donald B. Robinson, professor emeritus of chemical engineering at the University of Alberta. DBR provides laboratory and research services, design and manufacture of high pressure and temperature laboratory equipment, and specialty computer software products. In addition to its Canadian operations, DBR has a Fluid Properties Laboratory in Houston, Texas, and DBR OnSite Services operating out of Scott, Louisiana.

NSERC Researchers
At the University of Alberta, Dr. Donald B. Robinson conducted research on the thermodynamic properties of petroleum and related materials. Dr. Fred D. Otto, also a professor of chemical engineering, did research on gas-liquid reactions, gas processing and separation processes. Their research was supported by NSERC discovery, and research tools and instruments grants.

DEL-AIR Systems Inc.

Chief Executive Officer
Trent Bobinski

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S0K 2A0

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Annual Revenue
$10,000,000

Number of Employees in Canada
100

Year Incorporated
1981

Stock Market Listing
N/A

Principal Markets
North America, Korea, Europe, Australia

Industrial Sectors
Manufacturing

Web Site
www.del-air.com

Products or Services
The innovative technology that emerged from research at the University of Saskatchewan 17 years ago is now the basis of a commercial system that is keeping livestock happy across the country. This technology was developed at the University of Saskatchewan and is now manufactured by DEL-AIR Systems Ltd. The heat exchanger equipment keeps livestock comfortable through winter humidity and saves heating energy. The result is more efficient livestock production systems, with improved animal comfort and more rapid weight gains. DEL-AIR Systems produces rotationally moulded polyethylene housings that are more tolerant of harsh conditions and easier to clean than conventional systems.

NSERC Researchers
The DEL-AIR heat exchanger emerged from early-stage research work directed by professor emeritus Robert Besant at the University of Saskatchewan's Department of Engineering, and funded by an NSERC strategic project grant. Dr. Besant directed experiments with heat transfer and simple plywood and polyethylene plate-type heat exchangers. A member of his research staff saw the commercial potential in air-to-air heat exchangers for both agricultural and residential use, and left the university to develop both the DEL-AIR agricultural heat exchanger and the VanEe residential heat exchanger. Two companies were started to exploit this commercial potential: DEL-AIR Systems Ltd. for the agricultural technology, and Conservation Energy Systems, now known as Venmar CES, for the residential buildings. NSERC has supported Dr. Besant's research with several strategic project and discovery grants.

DEPHY Technologies Inc.

Chief Executive Officer
Olivier Peraldi

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Annual Revenue
Confidential

Number of Employees in Canada
10

Year Incorporated
1989

Stock Market Listing
N/A

Principal Markets
International

Industrial Sectors
Scientific Equipment and Instrumentation

Web Site
www.dephy.com

Products or Services
DEPHY Technologies Inc. specializes in the field of scientific instrumentation. In collaboration with the Université de Montréal, the company developed a new ion source for mass spectrometry. The Metastable Atom Bombardment (MAB) ion source offers unique features for gas-phase ionization. The energy available for ionization is discrete (excitation energy of the atom), which enables a precise control over fragmentation and hence a programming of the mass spectrum. The MAB source also allows selective ionization, which is advantageous for the direct analysis of mixtures by mass spectrometry. These features allow unique analytical applications in various fields. The MAB source is used by organizations as varied as the Department of Fisheries and Oceans, the U.S Food and Drug Administration, Imperial Oil, Ecopetrol, Proctor & Gamble, the Laboratoire de santé publique in Switzerland, the National Research Council in Canada, the Université Pierre et Marie Curie and the Institut national de recherche agronomique in France. The company developed an integrated mass spectrometer (MAB-Tof) based on the MAB technology that can be used to detect and identify bacteria in less than 60 seconds. DEPHY is also developing other analytical technologies related to liquid phase chromatography and mass spectrometry and is working on "intelligent" data interpretation software.

NSERC Researchers
Dr. Michel J. Bertrand is a professor of analytical chemistry and the director of the Centre régional de spectrométrie de masse at the Université de Montreal. He and his research group are involved in the development of new analytical techniques, data interpretation software, as well as biological and chemical analyzers. His contribution to the development of the MAB ionization source and the MAB-Tof technology was a key factor in the success of DEPHY Technologies Inc. Professor Bertrand is working closely with DEPHY on the development of new techniques of mass spectrometry, such as MAB post-ionization sources, and other new coupling and temporal resolution chromatography techniques. NSERC has supported the research of Dr. Bertrand and his group for many years through through discovery, infrastructure, and research tools and instruments grants.

DiCOS Technologies Inc.

President and Chief Technology Officer
Dr. Michel Têtu

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Annual Revenue
Confidential

Number of Employees in Canada
26

Year Incorporated
2000

Stock Market Listing
N/A

Principal Markets
International

Industrial Sectors
Photonics

Web Site
www.dicostech.com

Products or Services
DiCOS Technologies Inc. is a world leader in smart photonics for absolute calibration and control applications. The company develops and manufactures optical frequency management devices that provide very accurate and reliable calibration to tunable lasers and components, as well as to test and measurement instruments used in optical telecommunication networks.

DiCOS's new technology can be used as a locking system in wavelength division multiplexing (a fibre optic transmission technique) telecommunication networks, and as a calibrator in test and measurement equipment. The technology can also be implemented in an optical frequency monitoring and management system.

NSERC Researchers
Dr. Michel Têtu, one of DiCOS Technologies Inc.'s founders, is a professor in the Department of Electrical Engineering at Université Laval, and serves as DiCOS' president and chief technology officer. The company's three other founding members are Dr. Jean-François Cliche, vice-president, R&D, Dr. Christine Latrasse, scientific director, and Alain Zarka, test and measurement director. NSERC helped fund Dr. Têtu's research program at the Centre for Optics, Photonics, and Lasers (COPL) at the Université Laval, which led to the formation of DiCOS. Dr. Têtu's research has been supported by NSERC discovery, research tools and instruments, collaborative research and development, and strategic project grants for over 20 years.

Droycon Bioconcepts Inc.

Chief Executive Officer
Dr. Roy Cullimore

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(306) 585-3000

Email
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Annual Revenue
Confidential

Number of Employees in Canada
9

Year Incorporated
1987

Stock Market Listing
N/A

Principal Markets
U.S., Canada, Europe

Industrial Sectors
Environment

Web Site
www.dbi.ca

Products or Services

Droycon Bioconcepts Inc. has developed and is manufacturing a range of simple but effective biodetectors to test for particular nuisance bacteria in water. These patented testers were developed in response to the need to detect biofouling and improve the management of significant microbial activities in water wells and wastewater systems, and at hazardous waste sites. Currently, nine different biological activity reaction tests (BART™ testers) are manufactured. Two of the testers have received environmental technology verification through the ETV Canada Inc. program. Most of the product is exported to the United States. Field tests have been performed in the U.S., Europe, and South Africa, as well as in Canada. Current developments include a replacement for the five-day biochemical oxygen demand test (BOD-BART system) and a novel coliform bacteria detection test (COLI-BART system). Both of these systems are expected to go forward to verification in the year 2003.

The company has also been active in the development of systems for rehabilitating biologically plugged water wells using its patented blended chemical heat treatment (BCHT™) system. In conjunction with Agriculture and Agri-Food Canada, the company generated an understanding of this problem in the Canadian prairies. This led to the development of a modification of the BCHT™ treatment process more applicable to the local conditions. This technology is known as the ultra-acid base treatment (UAB™) and has been used in Alberta and Saskatchewan by ARCC Well Rehabilitation Canada Inc., a sister company formed in 2001 to specifically undertake water well rehabilitation.

NSERC Researchers

Droycon Bioconcept Inc.'s BARTTM technology was founded on the research of Roy Cullimore in collaboration with George Alford of ARCC. Dr. Cullimore recently retired from being a professor of microbiology at the University of Regina and now works full-time for the company. He devised these systems in part through the support of the NSERC discovery grant program during the 1980's. The University's Regina Water Research Institute played a major role in the advancement of the BCHT™ technologies.

Dr. Cullimore's acknowledged expertise on iron-related bacteria led to his direct participation in both the 1996 and 1998 expeditions to the *RMS Titanic* where Lori Johnston, a fellow employee, dove to the site and conducted investigations in 2002. The only long-term scientific experiments allowed to be left on the *RMS Titanic* since 1996 were designed by Dr. Cullimore in association with other scientists. These experiments are determining the rate of loss of different forms of steel resulting from the activities of bioconcretious elements (rusticles).

Dynacon Inc.

Chief Executive Officer
Stephen J. Sorocky

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Annual Revenue
$3,000,000

Number of Employees in Canada
25

Year Incorporated
1980

Stock Market Listing
N/A

Principal Markets
North America, Europe

Industrial Sectors
Lab Automation, Aerospace, Robotics

Web Site
www.dynacon.ca

Products or Services
For nearly two decades, Dynacon Inc. has provided highly advanced technical research and development assistance to the Canadian federal government and the aerospace industry. Dynacon has participated in more than 120 R&D projects since 1980, and has acquired an international reputation for its expertise on spacecraft dynamics and control. The company is now gaining a world-class reputation in a number of additional areas, including robotic arms, orbit and mission analysis, computer simulations, and software development. Dynacon is the prime contractor for the MOST (Microvariability and Oscillations of STars) microsatellite, Canada's first space telescope scheduled to launch October 2002.

Dynacon's Mini-Reaction Wheel and Gyro-Damper technologies are now being used in high-performance control system for microsatellite and small satellite applications. The company has also extended its expertise into terrestrial products such as InocuLAB — an automated robotic workcell that prepares specimens for microbiology testing. Dynacon has obtained venture capital investment to develop and grow this exciting new product line.

NSERC Researchers
Dynacon Inc. evolved out of consulting activities related to the research of Dr. P.C. Hughes, who works in the area of the dynamics and control of flexible spacecraft. Dr. Hughes' research, carried out at the University of Toronto's Institute for Aerospace Studies, has been supported by numerous NSERC discovery, collaborative research and development, research tools and instruments, and strategic project grants. Dynacon's chief operating officer, Dr. Glen B. Sincarsin, is a former NSERC Industrial Research Fellow and grantee. Dr. Regina Lee is currently an Industrial Research Fellow at Dynacon working on remote control and operation of robotics.

Dynastream Innovations Inc.

President and Chief Executive Officer
Kip Fyfe

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Annual Revenue
Confidential

Number of Employees in Canada
23

Year Incorporated
1998

Stock Market Listing
N/A

Principal Markets
International

Industrial Sectors
Proprioceptive Devices

Web Site
www.dynastream.com

Products or Services

Dynastream Innovations Inc. designs and manufactures "smart" devices, also known as proprioceptive devices. Its first product measures a person's speed, pace and distance travelled while walking or running. It provides an accurate means to determine foot angle and position, stride length and velocity using state-of-the-art, low-cost accelerometer technology and basic accelerometry principals. Dynastream's proprioceptive device consists of an accelerometer, a processor, an RF transmitter, and a power source. The device measures acceleration through a spring/mass system, sensing change in acceleration and integrating this measurement to calculate velocity and distance.

Dynastream technology is now used by Nike Inc. in their sdm[triax^{100} speed and distance monitor. The proprioceptive device is mounted on the shoe's lace bed and transmits data by radio waves to a specially designed wristwatch to give runners real-time data on their speed and distance travelled.

A new Nike product, the sdm[tailwind, introduced in 2002, uses Dynastream's technology to provide the same sensor measurements and data as the sdm[triax^{100} with the added benefit of calculating the number of calories burned by the user. The sdm[tailwind also attaches to the lace bed of a running shoe, but does not incorporate a watch as a receiver. All the data is displayed on an LCD screen on the unit itself, which eliminates the need for radio frequency transmission and reduces the end cost of the product.

Dynastream is now diversifying its technology for the consumer, medical, and industrial markets. The company is exploring virtual reality gaming that would allow users to watch natural leg, arm or hand gestures projected in real-time on a screen. The medical community could also benefit from this technology, which can be used to track the motions of patients recovering from injured limbs or using a prosthetic. A modified version of Dynastream's technology has also been proposed for use in trucks and trains.

NSERC Researchers

Dynastream Innovations Inc. was founded by Kip Fyfe, Jim Rooney, Wade Bortz, Vicki Brilz, and Dr. Ken Fyfe. Dr. Fyfe, a runner, track and field coach, and mechanical engineering professor at the University of Alberta, developed the technology for the wireless running speedometer after someone proposed it as an ideal project for his annual design course. Dr. Fyfe's research on biomechanical sensor development has been supported through NSERC discovery, and research tools and instruments grants.

Elitra Canada

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Annual Revenue
Confidential

Number of Employees in Canada
20

Year Incorporated
1999

Stock Market Listing
N/A

Principal Markets
International

Industrial Sectors
Pharmaceuticals

Web Site
www.elitra.com

Products or Services

For most of us, an encounter with *Candida albicans* is uncomfortable, but if you have a compromised immune system, beware: this infection can be lethal. *Candida albicans*, a form of yeast, is the most common fungal pathogen. For people with weakened immunity, such as cancer patients, a yeast infection is more likely to become systemic. At this point, candidiasis is more deadly than bacterial septicaemia. This is a growing problem; the Candida species is now the fourth most common blood-stream pathogen. Although we have treatments, our options are limited. Today's drugs are toxic to the patient as well as the fungal agent. There is also a growing risk of drug resistance.

Elitra Canada, formerly known as Mycota Biosciences Inc., is working towards new treatments for fungal infections. The company makes new drug discovery possible by combining genomics and cell wall molecular biology. Elitra Canada researchers are working to identify and validate a range of new drug targets in *Candida albicans*. The team will apply these findings to fungal-specific targets, with the aim of developing drug screens and a compound screening program. These screens and lead compounds will form the basis for partnerships with the pharmaceutical industry, ultimately resulting in new drug treatments.

Elitra Canada's expertise will have applications beyond health care. Farmers have struggled with fungal infestations for centuries. Recently, the fungus that caused the Irish Potato Famine reappeared, this time showing signs of resistance to Metalaxyl, the best weapon against it. Metalaxyl-resistant strains of this fungus caused losses of nearly 20 per cent of the U.S. potato crop in 1994. Elitra Canada's expertise may lead to crop treatments that will prevent such agricultural disasters.

NSERC Researchers

Elitra Canada was created by five world-class scientists: Drs. Howard Bussey and Marc Lussier of McGill University, Dr. Terry Roemer, a former doctoral candidate in Dr. Bussey's laboratory, Dr. Reginald Storms of Concordia, and Dr. Charles Boone of the University of Toronto. Dr. Bussey and Dr. Storms worked on an international project to sequence the yeast genome, which was supported by an NSERC collaborative project grant. Drs. Bussey, Storms, and Boone have also received NSERC discovery, and research tools and instruments grants.

Elstat Limited

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Annual Revenue
$200,000

Number of Employees in Canada
5

Year Incorporated
1972

Stock Market Listing
N/A

Principal Markets
North America

Industrial Sectors
Environment and Agriculture

Web Site
N/A

Products or Services
One of the pitfalls of current methods of pesticide spraying is that much of the spray fails to stick on plant leaves. Three researchers from the University of Western Ontario have found a solution — an electrostatic spray that sticks like glue to leaves. For over 20 years, their invention has been marketed by Elstat Limited, a company incorporated for that purpose. The bottom line? Reduced use of farm chemicals, which means cost savings for farmers and a healthier environment for all.

NSERC Researchers
The co-founders of Elstat Limited are University of Western Ontario electrical engineering professors Ion Inculet and Peter Castle, and materials engineering professor James Brown. Dr. Inculet, an expert in electrostatics and agricultural engineering, has been receiving NSERC discovery grants since the late 1970s. His research is on electrostatic processes in industrial applications. Dr. Castle is also an expert in electrostatics, and studies electrical charging and deposition of small particles. Dr. Brown's expertise lies in the dielectric properties of materials.

E.M. Optimisation Inc.

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Annual Revenue
Confidential

Number of Employees in Canada
5

Year Incorporated
1999

Stock Market Listing
N/A

Principal Markets
North America

Industrial Sectors
Manufacturing

Web Site
www.emoptimise.com

Products or Services

E.M. Optimisation Inc. offers a scientific method to influence industrial manufacturing processes. The company's E.M. method enhances a manufacturer's efficiency, improves the quality of products, keeps manufacturing costs down, and reduces development time by providing models of products and processes.

The E.M. method is an interactive, user-friendly tool that uses experiments based on variables such as speed, pressure, temperature, chemical composition and raw materials to develop mathematical models that represent the real behaviour of industrial processes.

E.M. Optimisation has focused on pharmaceutical technologies, digital simulations of mechanical concepts, and manufacturing of electronic components and aeronautical parts. The E.M. method has been used by Boeing (Rocketyne Division) for Gas Tungsten Arc Welding (GTAW) and the soldering of rocket engine parts.

NSERC Researchers

E.M. Optimisation Inc. was founded by Dr. Michel Galopin and Pierre Lefebvre to commercialize the E.M. method developed by Dr. Galopin at the École de technologie supérieure (ÉTS). Dr. Galopin, a professor of mechanical engineering at ÉTS, has been supported by NSERC collaborative research and development grants.

EM Technologies Inc.

Chief Executive Officer
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Annual Revenue
Confidential

Number of Employees in Canada
28

Year Incorporated
1987

Stock Market Listing
N/A

Principal Markets
International

Industrial Sectors
Mining and Mineral Processing

Web Site
www.emrmicrowave.com

Products or Services

EM Technologies Inc., a subsidiary of EMR Microwave Technology Corporation, is making waves with its microwave systems, which have the potential to dramatically reduce costs and increase productivity in the mining industry. EMR specializes in the design and development of microwave delivery systems, which, for the mining industry, lead to reductions in the costs of metal production, while also eliminating or greatly reducing toxic environmental by-products containing sulphur and arsenic. These processes are equally effective on ores, concentrates, or discarded tailings. The company is working on testing and pilot scale projects with mining producers worldwide and is forming strategic partnerships with key industrial engineering service providers, manufacturers, and mining companies for large-scale application and marketing of this technology. EM Technologies has extensive R&D facilities for the full range of development of its technologies from computer modelling, laboratory testing and analysis, to pre-commercial pilot operation. In 1994, the company was acquired by EMR Microwave Technology Corporation, a publicly traded company.

NSERC Researchers

EM Technologies Inc. was founded by Dr. James Tranquilla, a professor of electrical engineering at the University of New Brunswick. Dr. Tranquilla's investigation of microwave antenna systems was supported by NSERC through discovery, strategic project, and research tools and instruments grants.

Engineering Seismology Group Canada Inc.

Chief Executive Officer
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Annual Revenue
Confidential

Number of Employees in Canada
22

Year Incorporated
1993

Stock Market Listing
N/A

Principal Markets
International

Industrial Sectors
Petroleum, Mining, Laboratory, LPG Storage, Geothermal

Web Site
www.esg-solutions.com

Products or Services

Engineering Seismology Group Canada Inc. (ESG) offers passive (micro)seismic recording field and laboratory (ultrasonic) instrumentation, feasibility and monitoring/processing services to different industries involved with resource exploitation/extraction and underground storage worldwide. With over 60 permanent installations operating year-round, ESG is a world leader in the application of passive monitoring technology in diverse extreme geologic environments.

Building on the company's early success in monitoring stimulations in the late 1980s in Canada, followed by ESG's analysis of microseismicity associated with compaction in the North Sea, and the widely acknowledged success of obtaining geometric and fracture growth characteristics for stimulations in the Cotton Valley fields of East Texas (Cotton Valley Hydraulic Fracture Imaging Project), ESG developed the first commercially proven hydraulic fracture microseismic imaging service available to the petroleum industry. ESG has since successfully assessed over 50 stimulations throughout North America. ESG's permanent real-time microseismic systems are also deployed in reservoirs around the world, providing feedback on production-related activity such as water, steam, and waste cuttings injections, and identifying reservoir characteristics by integrating passive and 4D seismic programs.

ESG is currently involved in petroleum-related monitoring projects in Europe, Canada, the Middle East, and the U.S.; mining projects throughout the Americas and Australia; and nuclear waste repository and LPG (the generic name for commercial propane and commercial butane) sites in Canada, Europe, and Asia. Based on its experience, ESG has developed the tools required to assess the dynamic conditions under any recording situation and is able to quickly provide monitoring solutions.

NSERC Researchers

Engineering Seismology Group Canada Inc. was founded by Drs. Ted Urbancic and Cezar Trifu, and Mike Neumann to commercialize developments from the laboratories of Dr. Paul Young, a professor of geological sciences at Queen's University from 1985 to 1993, and Dr. Will Bawden, the chair of mine design and head of the Department of Mining Engineering at Queen's until 1998. During that time, Dr. Young held a number of NSERC discovery, strategic project, and research tools and instruments grants for monitoring seismicity. He is now the director of the Lassonde Mining Institute at the University of Toronto. Dr. Bawden received NSERC discovery, strategic project, and collaborative research and development grants to develop mine design strategies that integrated seismicity, numerical modelling, and geomechanical data. He currently holds the Pierre Lassonde Chair in Mining Engineering at the University of Toronto.

Ensyn Technologies Inc.

Chief Executive Officer
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Annual Revenue
Confidential

Number of Employees in Canada
30

Year Incorporated
1984

Stock Market Listing
N/A

Principal Markets
North and South America, Europe

Industrial Sectors
Environment, Forestry, Energy, Petroleum

Web Site
www.ensyn.com

Products or Services
This Ontario company has developed a commercial process to transform solid wastes, particularly forest residues, municipal wood waste and agricultural residues into valuable liquid fuels and chemicals. Ensyn Technologies Inc. and other entities of the Ensyn Group build and operate Rapid Thermal Processing (RTP™) technology, which evolved from work conducted at the University of Western Ontario in the early 1980s. The five commercial RTP™ plants in operation convert wood residues and other biomass to a boiler fuel and food chemicals. At the beginning of this decade, Ensyn expanded the development of commercial applications of RTP™ technology to include the heavy oil upgrading sector. Alliances with companies in the petroleum sector have led to the construction and operation of pilot and demonstration plants.

NSERC Researchers
Ensyn Technologies Inc. evolved from research carried out at Dr. Maurice Bergougnou's PROREACTOR (Processes and Reactors) Lab at the University of Western Ontario. Dr. Robert Graham, a graduate student in that laboratory, founded the company to commercialize a circulating transported bed fast pyrolysis reactor. Dr. Bergougnou, now a Professor Emeritus in the Department of Chemical and Biochemical Engineering, continues to receive NSERC funding for his work on the development of high-performance reactors.

EnviroMetal Technologies Inc.

Chief Executive Officer
John Vogan

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Annual Revenue
$1,300,000

Number of Employees in Canada
5

Year Incorporated
1992

Stock Market Listing
N/A

Principal Markets
International

Industrial Sectors
Environment, Waste Treatment

Web Site
www.eti.ca

Products or Services
This technology, which destroys harmful organic compounds, can be used to solve a wide range of environmental problems, particularly those involving the release of chlorinated organic chemicals. It is being commercialized by EnviroMetal Technologies Inc., a start-up company that emerged from research done at the University of Waterloo. The process uses an iron material to destroy organic chemicals quickly, without the need for expensive excavation and treatment of soils at hazardous waste handling centres. The technology is particularly suited for in situ clean-up of contaminated groundwater and has a multi-year performance record based on more than 150 active projects, including several at U.S. Super Fund Sites and sites in the European Union, Australia and Japan.

NSERC Researchers
EnviroMetal Technologies Inc.'s founder is Robert Gillham, an earth sciences professor at the University of Waterloo. He has been receiving NSERC discovery grant funding since the early 1980s. Dr. Gillham's more current work involves industrially oriented research. It is directed at understanding the migration and clean-up of industrial organic compounds in different geological environments. As well, he was appointed to the University of Waterloo's Industrial Research Chair in Groundwater Remediation in May 1997. This Chair is being funded by NSERC, Motorola and EnviroMetal Technologies. Dr. Gillham was recently awarded the Order of Canada for his academic efforts and community involvement.

E-One Moli Energy (Canada) Limited

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David Pa

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N/A

Annual Revenue
Confidential

Number of Employees in Canada
350

Year Incorporated
1990

Stock Market Listing
N/A

Principal Markets
Asia, North America, Europe

Industrial Sectors
Manufacturing

Web Site
www.molienergy.com

Products or Services
As technologies become portable, a recurring problem has been finding a small, powerful battery that can be recharged a number of times. E-One Moli Energy has found the answer — a rechargeable lithium-ion battery called the MOLICEL®. MOLICEL® batteries are used in portable computers, video cameras, cell phones, medical devices, military applications, etc. Approximately 1.4 million MOLICEL® batteries are produced every month. In 2000, NEC Moli Energy was bought by E-One Energy Corporation of Taiwan to form E-One Moli Energy (Canada) Limited.

NSERC Researchers
The development of the original metal lithium-type MOLICEL® began in the early 1980s in Dr. Rudolph Haering's lab at the University of British Columbia. One of Dr. Haering's students, Dr. Jeff Dahn of Simon Fraser University, continued the research that resulted in the new lithium-ion technology-based MOLICEL® now in production. Both researchers were funded by NSERC for their work on lithium batteries. E-One Moli Energy (Canada) Limited continues to work closely with NSERC in funding Industrial Postdoctoral Fellowships to help further the company's advancements in research.

ESTCO Battery Management Inc.

Chief Executive Officer
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Annual Revenue
Confidential

Number of Employees in Canada
9

Year Incorporated
1995

Stock Market Listing
N/A

Principal Markets
North America

Industrial Sectors
Energy, Automotive, Telecom, Railway

Web Site
www.estco.com

Products or Services
ESTCO Battery Management Inc. brings new meaning to the expression "knowledge is power." This company is a consulting and R&D powerhouse, offering expertise in batteries, fuel cells and supercapacitors. ESTCO helps client companies determine the most appropriate battery technology for each job — from installation to maintenance and, finally, safe disposal. ESTCO has provided services to the Canadian Coast Guard, Natural Resources Canada, Transport Canada, INCO, the International Energy Agency, and Carus Chemicals (U.S.). ESTCO's other major activity is creating advanced technologies. In 1996, the company formed a consortium with Ontario Hydro Technologies and Battery Technologies Inc. to develop a new Hybrid Electric Vehicle (HEV). One of ESTCO's roles is to evaluate the efficiency of the HEV. The company has a new product initiative, the Battery Health Manager (BHM™), which is at the pre-commercial stage of development. The BHM™ will be sold in the telecommunications, process industry, utilities, and railway sectors. ESTCO holds several U.S. patents on the BHM™ and on a new technology for the management of fuel cells, the Fuel Cell Health Manager (FCHM).

NSERC Researchers
ESTCO Battery Management Inc. began life as the Electrochemical Science and Technology Centre at the University of Ottawa. An NSERC strategic project grant helped to advance ESTCO's innovative electrochemical power sources for vehicle development. The strategic project grant was held by Dr. Brian Conway, a professor of chemistry at the University of Ottawa. ESTCO president Dr. William Adams, a co-applicant in the project, is also an adjunct professor of chemical engineering at the University of Ottawa.

Focal Technologies Corporation

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Annual Revenue
$15,000,000

Number of Employees in Canada
80

Year Incorporated
1983

Stock Market Listing
N/A

Principal Markets
International

Industrial Sectors
Marine Technology, Manufacturing

Web Site
www.focaltech.ns.ca

Products or Services
Focal Technologies Corporation designs and manufactures fibre optic rotary joints and slip rings that provide communication and power connections between objects that move and their stationary base. Designed to withstand the harshest environments, Focal devices can be found in winch and sonar systems, tank turrets, and submarine robots. Focal's fluid rotary unions provide subsea controls and life support to divers. Primary customers include major underwater operators, seismic companies, and manufacturers of remotely operated vehicles. In addition, Focal has customers in the robotics, automation, material handling, oil and gas, and defence industries. Focal's second product line features sophisticated oceanographic instruments. The Optical Particle Counter (OPC) provides fast and continuous measurement of marine organisms over large regions. The OPC is a low maintenance device and the best tool available for measuring levels of zooplankton and fish eggs in seawater. Focal also manufactures video and data multiplexers that provide digital fibre optic transmissions of 4 to 12 uncompressed video channels and up to 64 bi-directional data channels on a single fibre.

NSERC Researchers
Focal Technologies Corporation was set up as a joint undertaking between Nova Scotia's Seimac Ltd. and Dr. Barry Paton's Fibre Optics Lab at Dalhousie University. Dr. Paton's research in fibre optics received support from NSERC discovery, strategic project, and research tools and instruments grants. The oceanographic devices were designed partly by NSERC-funded researchers in Dalhousie's Oceanography Department. The company also commercialized technologies developed at the Nova Scotia Research Foundation Corp. (now Innova Corp).

Forbes Medi-Tech Inc.

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Charles Butt

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Annual Revenue
$7,900,000

Number of Employees in Canada
42

Year Incorporated
1993

Stock Market Listing
N/A

Principal Markets
North America, Europe

Industrial Sectors
Pharmaceuticals and Functional Foods

Web Site
www.forbesmedi-tech.com

Products or Services

Forbes Medi-Tech Inc. adds another valuable dimension to Canada's forestry industry. Forbes' core technology is based on the extraction of value-added materials from "tall-oil" waste produced by the pulp and paper industry. The company extracts phytosterols from "tall oil pitch" to produce innovative nutraceutical and prescription pharmaceutical products for the prevention and treatment of cardiovascular and related diseases. Phytosterols, also known as plant sterols, are lipid-like compounds found in the cells and membranes of all oil-producing plants, grains and trees.

Forbes has developed a phytosterol-based cholesterol-lowering food ingredient called Phytrol™ (consumer branded as Reducol™), which has been incorporated into various foods products and dietary supplements presently on the market in the U.S. Forbes has a dedicated phytosterol manufacturing plant near Houston, Texas, with an annual capacity of 1,000 metric tonnes. In addition, the company is conducting a Phase I/II clinical trial of its cardiovascular pharmaceutical FM-VP4, a cholesterol transport inhibitor, at the Academic Medical Center in Amsterdam. Forbes also has proprietary microbial fermentation technology that converts plant sterols into Androstenedione (AD) and Androstadeinedione (ADD), fine chemical intermediates used in the production of steroid-based pharmaceuticals such as anti-inflammatories and birth control agents.

Forbes has a manufacturing agreement with FERMIC, S.A. DE C.V. in Mexico City to produce AD and ADD for international markets. The company is continuing to grow its business through a commitment to therapeutic innovation, ongoing research and development, and licensing of new technologies.

NSERC Researchers

Forbes Medi-Tech Inc. commercializes research conducted by Dr. James Kutney of the University of British Columbia's Department of Chemistry. NSERC supported his work with "tall oils" through discovery, strategic project, research tools and instruments, and collaborative research and development grants.

Galian Photonics Inc.

President and Chief Executive Officer
Richard McMahon

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Annual Revenue
Confidential

Number of Employees in Canada
20

Year Incorporated
2000

Stock Market Listing
N/A

Principal Markets
International

Industrial Sectors
Telecommunications and Wireless

Web Site
www.galianphotonics.com

Products or Services

Galian Photonics Inc. is the emerging leader in the application of photonic crystals to optical telecom components. These crystals boost the capacity of communication networks to carry more data, voice and internet traffic. Galian's proprietary photonic crystal technology enables the design and manufacture of complex optical integrated circuits that will support the next generation of telecom components.

Photonic crystals are microscopically structured materials that perfectly reflect photons at a specific range of wavelengths known as the "photonic bandgap." Galian's photonic crystals are micro-fabricated by creating a regular pattern of holes in slabs of semiconductors.

Galian's photonic crystal technology independently controls the micro-fabrication of each hole, which enables the design of various functional building blocks such as couplers, filters and switches. This makes photonic crystals the ideal platform for the design and manufacturing of a new generation of micro-compact integrated optical components.

NSERC Researchers

Galian Photonics Inc. was founded by president and CEO Richard McMahon, Dr. Michael Jackson, chief technology officer and vice-president, R&D, and Dr. Jeff Young, senior scientist at Galian. Dr. Jackson was an associate professor of electrical and computer engineering at the University of British Columbia (UBC) until August 2002. NSERC supported his research on fibre optics and high-speed micro-electronics with collaborative research and development, research tools and instruments, discovery, and strategic project grants. Dr. Young is a professor and the program director of engineering physics at UBC. He also supervises the Photonics and Nanostructures Lab at UBC. Dr. Young is internationally renowned for his work on photonic bandgap crystal modelling, design, and fabrication. NSERC has supported his research with discovery, collaborative research and development, research tools and instruments, and industrially oriented research grants.

GeneMax Pharmaceuticals Inc.

President and Chief Executive Officer
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Annual Revenue
Confidential

Number of Employees in Canada
8

Year Incorporated
1999

Stock Market Listing
Exchange: OTC-BB
Symbol: GMXX

Principal Markets
North America

Industrial Sectors
Pharmaceuticals, Biotechnology, Health

Web Site
www.genemax.com

Products or Services
GeneMax Pharmaceuticals Inc. was formed around the vision of bringing leading-edge immunotherapies to market to cure and alleviate suffering for people with cancer, infectious diseases, auto-immune disorders, and other immune-related diseases.

The company's lead product is a therapeutic cancer vaccine, which provides a general method for improving the recognition and elimination of cancer cells by the person's own immune system. The vaccine provides therapeutics to treat a wide variety of solid tumours deficient in the TAP (Transporters Associated with Antigen Processing) protein. These include lung cancer, melanoma, prostate cancer, breast cancer, and cervical cancer.

The TAP protein is delivered via a vaccine to the cancer cells to recreate the TAP pathway. GeneMax' therapeutic cancer vaccine has been proven in successful animal trials where mice with lung cancer experienced up to 70 per cent survival rates following treatment with the vaccine.

NSERC Researchers
Dr. Wilfred Jefferies, GeneMax's chief scientific officer, is a professor of medical genetics, microbiology and immunology, and a member of the Biomedical Research Centre and the Biotechnology Laboratory at the University of British Columbia. The early stages of Dr. Jefferies' work on an immune system-based cancer vaccine were funded by NSERC. Dr. Jefferies has received NSERC strategic project, research tools and instruments, and discovery grants.

GIRO Inc.

Chief Executive Officer
Dr. Jean-Yves Blais

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Annual Revenue
$25,000,000

Number of Employees in Canada
150

Year Incorporated
1979

Stock Market Listing
N/A

Principal Markets
International

Industrial Sectors
Transportation and Logistics

Web Site
www.giro.ca

Products or Services

Software created by GIRO Inc. is now being used in more than 24 countries on all five continents. Public transportation companies in large urban centres such as Sydney, Los Angeles, Singapore, Montreal and Brussels use the HASTUS software to design mass transit schedules (for vehicles and staff). Thanks to this software, public transit companies have substantially reduced operating costs and vehicle requirements (by up to 5 per cent). A new software package, GIRO/ACCES, provides reservation and tour organization functions for mobility impaired travelers.

GIRO also offers software for designing schedules and routes for delivery and waste management companies. Users of its GeoRoute product include Canada Post Corporation and the postal corporations in Belgium, Great Britain, Germany and Luxembourg.

GIRO products are the result of research carried out at the Université de Montréal, the École des Hautes Études Commerciales and the Université du Québec à Montréal.

NSERC Researchers

GIRO Inc. was founded by Jean-Yves Blais and Jean-Marc Rousseau. In the 1980s, Dr. Rousseau ran the Centre for Research on Transportation. In addition to his research on the problems of mass transit, he has collaborated with other researchers from the Université de Montréal (Drs. Lapalme and Ferland) on systems currently being used for mail delivery. GIRO also obtained a user license for the Gencol technology developed by researchers Soumis and Desrosiers from École Polytechnique and École des hautes études commerciales. NSERC supports their research through strategic project, discovery and infrastructure grants. GIRO employs many former NSERC award holders.

Guigné International Ltd.

Chief Executive Officer
Dr. Jacques Yves Guigné

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(709) 895-3999

Email
gil@guigne.com

Annual Revenue
$5,000,000

Number of Employees in Canada
50+

Year Incorporated
1989

Stock Market Listing
N/A

Principal Markets
International

Industrial Sectors
Space, Underwater Sonar, Defense, Food and Pharmaceuticals

Web Site
www.guigne.com

Products or Services
A world leader in innovative acoustic design, Guigné International Ltd. (GIL) offers its clients cost-effective solutions to acoustical engineering problems. These solutions are provided by instruments and services based upon GIL's core technology, DRUMS™ (Dynamically Responding Underwater Matrix Sonar/ Dynamically Responding Ultrasonic Matrix System) — a system originally designed to image and survey the effects of trawling on the ocean floor. DRUMS™ has gained acceptance and recognition within the international scientific and engineering communities as a saleable tool for the solution of a broad variety of engineering problems in a cost-effective manner. Detection and health of marine life, inspection of hydro-electric dams, the manufacture of protein crystals used in pharmaceuticals, and the moulding of high-temperature materials into complex shapes are just some of the potential applications for which DRUMS™ has been used.

NSERC Researchers
Established in 1989 by Jacques Yves Guigné, Guigné International Ltd. (GIL) presently employs over 20 top engineers and physicists, plus electronics and administrative support staff. While GIL is focused on advanced acoustical research and design engineering, it has formed a joint venture agreement with a new company, Guigné Technologies Ltd. (GTL), in order to commercialize its technology on a global scale. GTL efforts will be concentrated on marketing GIL's products.

Dr. Guigné is an associate professor in the Faculty of Engineering and Applied Science at Memorial University of Newfoundland. Among his research interests are the acoustical investigation of contaminated bed sediment properties and acoustical methods of assessing cracks in steel structures. Dr. Guigné has received NSERC discovery, collaborative research and development, strategic project, and research tools and instruments grants.

Harding Instrument Company Ltd.

Chief Executive Officer
Dr. Patrick J. R. Harding

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Fax
(780) 450-8396

Email
path@harding.ca

Annual Revenue
$6,000,000

Number of Employees in Canada
50

Year Incorporated
1969

Stock Market Listing
N/A

Principal Markets
North America

Industrial Sectors
Communications, Oil and Gas, Security

Web Site
www.harding.ca

Products or Services
Edmonton's Harding Instrument Company Ltd. has a long history as a university start-up company. It was founded in 1969 by four electrical engineering professors from the University of Alberta. The company designs and manufactures microelectronics for a variety of applications. Its product line includes advanced flow measurement devices for the oil patch and the MicroComm DXI voice communications system for the correctional and high security market.

The voice communications system has already been installed in approximately 100 facilities throughout North America and opportunities to open up overseas markets are being investigated. Many of those facilities rank as the largest and most secure in the United States. The MicroComm DXI benefits Harding's customers because of its ability to integrate with other communications systems, its comprehensive features package, and its flexible configuration.

Harding Instrument's research and development team remains actively involved in developing other sophisticated microprocessor-based electronic products to expand its current markets, and to present viable technological solutions to new industrial sectors. While the company continues to promote its OEM engineering and manufacturing operations, it has a strong desire to develop more products that it can take directly to market.

NSERC Researchers
Dr. Patrick Harding is one of the founders of the Harding Instrument Company Ltd. He was a professor of electrical engineering at the University of Alberta for 19 years where he joined with several academic friends to form Harding Instruments.

Dr. Harding participated in the establishment of the Alberta Microelectronics Centre (now Micralyne). His university research was supported by NSERC discovery grants.

Hycal Energy Research Laboratories Ltd.

Chief Executive Officer
Dr. Douglas W. Bennion

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Calgary, Alberta
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Fax
(403) 291-0481

Email
general@hycal.com

Annual Revenue
$6,000,000

Number of Employees in Canada
40

Year Incorporated
1976

Stock Market Listing
N/A

Principal Markets
International and Domestic

Industrial Sectors
Energy, Oil and Gas

Web Site
www.hycal.com

Products or Services
Hycal is a real Canadian pioneer. As one of the first Canadian petroleum research firms, it has developed equipment to perform research that previously had to be done offshore. Working in the area of reservoir engineering, production engineering and enhanced oil recovery, Hycal provides the oil industry with applied research and consulting services. With more than 25 years of experience and more than 200 client companies around the world, Hycal is a significant presence in commercial petroleum research.

NSERC Researchers
Hycal was initially formed by Dr. Doug Bennion and Dr. Robert Moore to perform research for Petro Canada, which as a fledgling company had no laboratories of its own. Dr. Bennion taught for 21 years in the Department of Chemical and Petroleum Engineering at the University of Calgary, which is headed by professor Moore. NSERC has supported their basic research through discovery, strategic project, and research tools and instruments grants.

HYDROMANTIS, INC.

GENERAL MANAGER
Joe Stephenson

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ANNUAL REVENUE
$2,500,000

NUMBER OF EMPLOYEES IN CANADA
30

YEAR INCORPORATED
1985

STOCK MARKET LISTING
N/A

PRINCIPAL MARKETS
North America, Europe, Japan, Korea

INDUSTRIAL SECTORS
Water Treatment, Environment, Wastewater Treatment

WEB SITE
www.hydromantis.com

PRODUCTS OR SERVICES
Founded in 1985, Hydromantis, Inc., is a unique employee-owned Canadian environmental engineering consulting company. It specializes in the application of environmental planning, innovative plant optimization programs, application of process and design engineering skills and solutions to wastewater treatment, collection systems and water resources management.

Hydromantis specializes in the application of proven methods for the optimization and design of wastewater treatment systems. It provides clients with services that address their needs in areas of environmental planning, treatability assessments, process, conceptual, pre-design and detailed design engineering, operations and operator training, software design and support, and instrumentation and control.

Hydromantis staff is experienced in all aspects of wastewater treatment including desktop analyses, piloting, field-testing at full scale, and pre-design engineering of water and wastewater treatment facilities. The company has expanded its capabilities to include multidiscipline detailed design and services during construction. Hydromantis has the experience and ability to carry out projects from the initial conceptual stage all the way through to commissioning, operation, and training of facility staff.

The company offers a unique blend of consulting engineering services and innovative software products designed to optimize water and wastewater treatment plant design, operation and operator training. GPS-X (General Purpose Simulator) is Hydromantis' key software product together with CapdetWorks and ParaMetra. GPS-X is recognized as the most comprehensive and powerful treatment plant simulator in the world. GPS-X incorporates many models and utilities from around the world for use by plant owners, operators, consultants and researchers.

NSERC RESEARCHERS
Hydromantis, Inc. was established in 1985 by Gilles Patry, then a civil engineering professor at McMaster University. Dr. Patry is now a professor, rector and vice-chancellor at the University of Ottawa. His projects are funded by NSERC discovery grants.

iANYWHERE SOLUTIONS INC.

PRESIDENT
Terry Stepien

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ANNUAL REVENUE
Confidential

NUMBER OF EMPLOYEES IN CANADA
195

YEAR INCORPORATED
1981

STOCK MARKET LISTINGS
N/A

PRINCIPAL MARKETS
International

INDUSTRIAL SECTORS
Information Technology

WEB SITE
www.sybase.com/ianywhere

PRODUCTS OR SERVICES

Sybase Waterloo was formerly WATCOM International Corporation, a start-up from the University of Waterloo. In 1994, WATCOM merged with Powersoft Corp, which subsequently combined in 1995 with California-based Sybase, Inc., one of the largest global independent software companies. In 2001, iAnywhere Solutions Inc. became a subsidiary of Sybase, Inc.

iAnywhere Solutions is the leading global provider of mobile and wireless solutions. The company's comprehensive, end-to-end m-Business platform is based on leading technologies that have been proven in customer environments around the world. iAnywhere continues to innovate by providing customers with the one-stop source they need to develop, implement and deploy successful m-Business solutions. iAnywhere has created SQL Anywhere Studio, the number one mobile database and synchronization technology for use on laptops. The groundbreaking UltraLite technology is extending the company's success into smaller handheld computing devices, such as Palm Pilots, pocket PCs, pagers and intelligent appliances. The iAnywhere m-Business Studio also provides "always available" access to corporate information from wireless devices even when a network connection is unavailable.

NSERC RESEARCHERS

Members of the University of Waterloo's Computer Systems Group, headed by Dr. Wes Graham, established WATCOM, the predecessor of Sybase Waterloo. The Group's expertise enabled the WATCOM team to produce innovative software for the education market. Many members of the Computer Systems Group, including Dr. Graham and Dr. Donald Cowan, now a Professor Emeritus in the Department of Computer Science, received NSERC support through discovery grants.

Terry Stepien, the President of iAnywhere Solutions Inc., was also a member of Waterloo's Computer Systems Group, where he held an adjunct faculty appointment in the Department of Computer Science.

iGO Technologies Inc.

President and Chief Executive Officer
Cam Thompson

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Fax
N/A

Email
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Annual Revenue
Confidential

Number of Employees in Canada
6

Year Incorporated
1998

Stock Market Listing
N/A

Principal Markets
North America

Industrial Sectors
Computer Software, Healthcare

Web Site
www.igotechnologies.com

Products or Services
iGO Technologies Inc. specializes in computer-assisted surgery. iGO's products are designed for use by surgeons as diagnostic tools for pre-operative planning, intra-operative navigation and imaging, and post-operative assessment.

iGO's Virtual Surgery System is an imaging and guidance system that allows surgeons to work with computerized 3D models of a patient's anatomy in order to plan, perform, and assess surgical procedures. The system can be used in a wide variety of orthopedic surgical procedures, such as joint replacements, bone re-alignments, and the removal of tumours. iGO's 3D imaging system provides surgeons with a more realistic picture of the patient's anatomy, guiding them in real-time with continuous visual and numeric feedback. Operations on fragile joints damaged by arthritis or fracture become less invasive, significantly reducing a patient's exposure to radiation. iGO's surgical team has performed over 100 computer-assisted surgeries at the Kingston General Hospital.

NSERC Researchers
Dr. Randy Ellis is one of the founders of iGO Technologies Inc. and its vice-president of research. A professor in the School of Computing at Queen's University, he is also cross appointed to the Department of Mechanical Engineering and the Department of Surgery. Dr. Ellis is recognized internationally as a leading researcher in computer-assisted surgery and heads the research program of Operating Room 2010, North America's first multi-purpose computer-integrated operating room. Dr. Ellis' research in computer-enhanced surgery has been supported by NSERC strategic project, research tools and instruments, and discovery grants.

Imaging Research Inc.

Chief Operating Officer
David Burns

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Email
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Annual Revenue
Confidential

Number of Employees in Canada
50

Year Incorporated
1986

Stock Market Listing
N/A

Principal Markets
International

Industrial Sectors
Scientific Devices and Instrumentation

Web Site
www.imagingresearch.com

Products or Services
Imaging Research Inc., a majority-owned subsidiary of Amersham Biosciences, is a software and instrument developer that manufactures analytical imaging systems, screening systems, and bioinformatics software for life science research and pharmaceutical drug discovery. The company's MCID™ and AIS image analyzers and ArrayVision™ gene expression analysis software are in widespread use, as is ArrayStat™, an inferential statistics package for gene expression data analysis. Imaging Research's screening technologies include an ultra-high throughput imaging system licensed to Amersham Biosciences (LEADseeker™) and an automated cell screening system (AutoLead™) with both live-cell and stained-cell capabilities. Imaging Research markets its products and services directly and through selected distributors worldwide.

NSERC Researchers
Imaging Research Inc. was founded by psychology professor Peter Ramm of Brock University. Dr. Ramm, now chairman and chief scientist at Imaging Research, has received a number of NSERC discovery grants since the mid-1980s.

Infolytica Corporation

Chief Executive Officer
Dr. David A. Lowther

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Email
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Annual Revenue
Confidential

Number of Employees in Canada
24

Year Incorporated
1978

Stock Market Listing
N/A

Principal Markets
International

Industrial Sectors
Manufacturing, Electronics

Web Site
www.infolytica.qc.ca

Products or Services

Magnetic technology is at the heart of much electrical and electronic equipment. While the technology has been incredibly successful, it has also created some unique design problems. Often, the only way to test whether a device such as a VCR or computer hard drive is viable is to build a prototype, a time-consuming and expensive process. Montreal's Infolytica Corporation has a time- and money-saving solution. It has developed a software package that analyzes potential designs without having to construct a prototype. The software is based on research done at McGill University. Infolytica also offers consulting services and custom software design for such clients as the Department of National Defence, Ford Motor Company, General Electric, and NASA.

NSERC Researchers

Infolytica Corporation was founded by Dr. David A. Lowther, an electrical engineering professor at McGill University, and the late Dr. Peter Silvester, also of McGill, together with Dr. Ernest Freeman from Imperial College, London, U.K. Dr. Lowther, who is currently Infolytica's president, has research interests in electromagnetic field analysis, computer software, computer-aided design and the automated design of electromagnetic devices. Dr. Jonathan Webb, vice-president of Infolytica, is also an electrical engineering professor at McGill, and his area of research includes numerical analysis systems and electromagnetic analysis of high-frequency systems. Drs. Lowther and Webb receive NSERC support in the form of discovery and research tools and instruments grants.

Innova LifeSciences Corporation

Chief Executive Officer
Michael Kehoe

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Annual Revenue
$20,000,000

Number of Employees in Canada
55

Year Incorporated
1992

Stock Market Listing
Exchange: TSX
Symbol: IVA

Principal Markets
International

Industrial Sectors
Medicine

Web Site
www.innovalife.com

Products or Services
More people are flashing their pearly whites thanks to Innova LifeSciences Corporation. The company has developed an innovative new dental implant system called Endopore. Innova's Endopore is easier to install than conventional implants and patients recover faster. The Endopore implant has a special porous coating that allows the implant to mesh with the patient's bone, so the prosthesis is stable and healthy. This innovative material also reduces the risk of rejection. Because it is easier to implant, more dentists can offer the Endopore system to their patients.

Innova has helped to put smiles on the faces of people around the world, exporting Endopore to the United States, England, France, Russia, Australia, Japan, Korea, Taiwan, India, Singapore, and Saudi Arabia, to name just a few. Endopore's success has encouraged the company to develop other novel biodegradable materials for tissue engineering and orthopedic applications. Innova is also looking to commercialize other medical devices developed at the University of Toronto.

NSERC Researchers
The Endopore system was invented by Dr. Robert Pilliar, a professor at the Faculty of Dentistry and the Centre for Biomaterials, with Drs. Douglas DePorter and Philip Watson, also in the Faculty of Dentistry at the University of Toronto. Since 1978, Dr. Pilliar has received NSERC support through discovery, strategic project, research tools and instruments, and collaborative health research project grants.

INRO Consultants Inc.

Chief Executive Officer
Dr. Michael Florian

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Montreal, Quebec
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Email
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Annual Revenue
$3,200,000

Number of Employees in Canada
23

Year Incorporated
1976

Stock Market Listing
N/A

Principal Markets
International

Industrial Sectors
Transportation, Logistics, Urban Planning

Web Site
www.inro.ca

Products or Services
Transportation planning studies are more productive and efficient in many of the countries around the world, thanks to INRO Consultants Inc. The company produces the EMME/2 software that is used to model urban, regional and national transportation of people. INRO's clients include more than 598 organizations in 60 countries. They use software to model the results of changes to transport infrastructure and land use such as the construction of new roads, the introduction of new transit services, and the development of new residential areas. Based on research undertaken at the Université de Montréal's Centre for Research on Transportation, the software is designed to be applicable in numerous fields. Its powerful macro language allows the implementation of complex transport models.

NSERC Researchers
INRO Consultants Inc. was founded by Dr. Michael Florian, a professor in the Université de Montréal's Department of Computer Science and Operational Research and a member of the Centre for Research on Transportation at the same university. Dr. Florian's work is supported by NSERC discovery, strategic project, and research tools and instruments grants.

ITRES Research Ltd.

Chief Executive Officer
Dr. Clifford D. Anger

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T2L 2K7

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(403) 250-9916

Email
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Annual Revenue
$3,500,000

Number of Employees in Canada
24

Year Incorporated
1979

Stock Market Listing
N/A

Principal Markets
International

Industrial Sectors
Imaging Instrumentation (Observation)

Web Site
www.itres.com

Products or Services
ITRES Research Ltd. manufactures and supports the CASI (Compact Airborne Spectographic Imager), a commercial all-digital, programmable imaging spectrograph used for airborne remote sensing. The CASI provides information products for water quality, forestry and agriculture. ITRES' current focus is on using the products for detecting military surface land mines and extracting agricultural and forest inventory products including infestations, species, stem counts, crown closure estimates, patch mapping and stream management. The CASI is available for sale or lease.

NSERC Researchers
The founder of ITRES Research Ltd. is Clifford Anger, a professor of Physics and Astronomy at the University of Calgary. The company is an earthbound spin-off of Dr. Anger's space-based research. He has designed scientific instruments for the ISIS 2 satellite and the Swedish Viking spacecraft. He is also a member of NASA's Galileo mission to Jupiter imaging team. The CASI is a system based on technology developed by ITRES personnel for Canadian and U.S. space projects. Dr. Anger's research has been supported by NSERC through discovery, research tools and instruments, and collaborative special project grants, and industrial research fellowships.

JGKB Photonics Inc.

President and Chief Executive Officer
Alan Guest

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Email
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Annual Revenue
Confidential

Number of Employees in Canada
15

Year Incorporated
2000

Stock Market Listing
N/A

Principal Markets
North America

Industrial Sectors
Fibre Optics

Web Site
www.jgkb.com

Products or Services

JGKB Photonics Inc. designs and manufactures electro-optic components that enable next generation fibre-optic telecommunication systems. The company's proprietary technology solves key problems involved in the transmission of large amounts of digital information over long distances via optical fibres. JGKB's modulators are aimed at the next generation systems, which can operate at 40 billion bits per second and beyond.

Built in compound semiconductors, JGKB's ultra-high-speed external modulators offer low drive voltage, wide bandwidth, and low chirp operation, a winning combination for long-distance fibre-optic communication systems. In addition, JGKB's modulators are broadband devices: a single modulator covers an entire fibre-optic communication band, i.e., the entire C or L band. JGKB's modulators combine, and improve upon, the desirable features of electro-absorption modulators and lithium niobate-based Mach-Zehnder modulators, providing system designers with external electro-optic modulators that exhibit unprecedented performance.

NSERC Researchers

The company name JGKB Photonics Inc. uses the last initials of the four founders — Dr. Nicolas Jaeger, Alan Guest, Hiroshi Kato, and Jeffrey Bull. Dr. Bull serves as research scientist at JGKB and has been supported by NSERC postgraduate scholarships.

Dr. Jaeger is a professor of electrical and computer engineering at the University of British Columbia where he invented the core technology used in JGKB's optical modulators. Dr. Jaeger has been supported by NSERC discovery, collaborative research and development, industrially oriented research, and research tools and instruments grants.

This is the second company generated from one of Dr. Jaeger's technologies. In July 1997, Carmanah Engineering Ltd., now NxtPhase Corporation, was the first company to spin-out of his lab. NxtPhase is a thriving local company in the field of optical instruments for measuring voltage and current in power utility applications.

KEMESTRIE INC.

PRESIDENT
Paul Jollez

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ANNUAL REVENUE
Confidential

NUMBER OF EMPLOYEES IN CANADA
42

YEAR INCORPORATED
1992

STOCK MARKET LISTING
N/A

PRINCIPAL MARKETS
North and South America, Europe

INDUSTRIAL SECTORS
Fine Chemicals, Energy, Environment

WEB SITE
www.kemestrie.com

PRODUCTS OR SERVICES

One of the best ways to get companies to go "green" is to help them to make a profit at it. And that's what Kemestrie Inc. does. Based on research carried out at the Université de Sherbrooke, the company has developed and markets biorefinery technology that transforms organic waste materials (including forestry, industrial and agricultural waste) into valuable products such as fine chemicals. Pilot plants and two commercial plants using Kemestrie technology have already been set up.

NSERC RESEARCHERS

Kemestrie Inc. was founded by Dr. Esteban Chornet, a professor of chemical engineering at the Université de Sherbrooke. Dr. Chornet is the head of the Groupe de recherche sur les technologies et procédés de conversion (GRTPC) (Research group on conversion technologies and processes). This group developed the technology used by Kemestrie, which was set up to transfer the group's findings to the industrial sector. Dr. Chornet and the GRTPC receive NSERC strategic project, discovery, and research tools and instruments grants.

Kinetic Sciences Inc.

Chief Executive Officer
Guy Immega

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Email
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Annual Revenue
$1,053,000

Number of Employees in Canada
8

Year Incorporated
1991

Stock Market Listing
N/A

Principal Markets
North America

Industrial Sectors
Robotic Engineering

Web Site
www.kinetic.bc.ca

Products or Services
Kinetic Sciences Inc. (KSI) has extensive contracts for its advanced robotic vision systems with the Department of National Defence and the Canadian Space Agency. Its main product is the Eagle Eye Vision System, a three-dimensional robotic vision system originally developed at the University of British Columbia. The company also markets robotic grippers for use in space.

Kinetic Sciences Inc. has a major contract with Lockeheed Martin and the U.S. Department of Energy to develop a robotic inspection system for stored nuclear waste, based on the Eagle Eye machine vision system. The company is also supplying tentacle manipulators for decontamination of radioactive Department of Energy facilities.

KSI has developed a robot navigation system based on the Eagle Eye vision system, to inspect the B-2 Stealth aircraft for Northrop Grumman and the U.S. Air Force.

KSI has also developed a novel fingerprint biometric sensor system, based on previous work on robotic fingertip sensors for the Canadian Space Agency. The KSI Fingerprint Sensor is designed for cell phones and airport security.

NSERC Researchers
The Eagle Eye Vision System is a licensed technology from the University of British Columbia, developed by David Lowe. Dr. Lowe is a a professor in the Department of Computer Science at the University of British Columbia and an associate director of the Laboratory for Computational Intelligence. He has received several NSERC discovery grants over the past 15 years. Dr. Lowe's research interests include object recognition, computer vision, artificial intelligence, and machine learning.

Kipp & Zonen Inc.

Chief Executive Officer
Ben Dieterink

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Annual Revenue
$14,000,000

Number of Employees in Canada
22

Year Incorporated
1981

Stock Market Listing
Exchange: CDNX
Symbol: KZN.A

Principal Markets
International

Industrial Sectors
Solar Sensors, Recorder Instruments

Web Site
www.kippzonen.com

Products or Services

Servicing the industrial, environmental, and meteorological research markets, Kipp & Zonen Inc. is a publicly traded science and technology company. Kipp & Zonen established its esteemed reputation as a global market leader through the development and manufacture of innovative products. The company's broad product range includes various sensor models for broadband solar/light and infrared radiation measurement. Other Kipp & Zonen products include meteorological monitoring instrumentation, data acquisition devices, and laboratory strip chart recorders. Three major product groups define the business of Kipp & Zonen, Atmospheric Monitoring Instrumentation, Chart Recorders, and Tank Gauging.

In the Atmospheric Monitoring Instrumentation market, Kipp & Zonen offers a broad range of sensors for solar radiation and visible light measurement, including supporting peripheral instrumentation and hardware. The product line encompasses sensors for broadband ultra-violet, short-wave/visible, and infrared radiation measurement. Kipp & Zonen is also the sole manufacturer of the Brewer Spectrophotometer. The Brewer is renowned worldwide for its highly accurate stratospheric ozone and UV monitoring capability. Additionally, Kipp & Zonen distributes other quality instruments/radiometers for atmospheric monitoring on behalf of various foreign manufacturers.

The Chart Recorder product range is comprised of numerous model types. Applications range from laboratory HPLC and HPGC process measurement, to *in situ* real-time process recording via sensor/transducer input to the recorder. Kipp & Zonen chart recorders are sold through various OEM arrangements and distributors worldwide. Kipp & Zonen also manufactures the PETRO TAG™, a Tank Gauging instrument for use in oil, gas, and other industries that require liquid storage monitoring.

An ISO-9001 certified manufacturer, Kipp & Zonen maintains a complete manufacturing and R&D facility in the Netherlands and Saskatoon. Additional corporate sales offices are located in the United States, England, France, and Germany. A global network of independent sales agents and distributors also exists to further compliment the existing corporate sales offices.

NSERC Researchers

Kipp & Zonen Inc. (formerly called SCI-TEC Instruments Inc.) is a spin-off of SED Systems, itself a start-up from the Space Engineering Division of the University of Saskatchewan's Department of Upper Atmospheric Physics. Drs. Balfour Currie and Alex Kavadas were instrumental in the formation of SED in 1972. Both researchers received funding from NSERC's predecessor, the National Research Council's Office of Grants and Scholarships.

Lightyear Technologies Inc.

President and Chief Executive Officer
David Rendina

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Email
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Annual Revenue
Confidential

Number of Employees in Canada
20

Year Incorporated
1999

Stock Market Listing
N/A

Principal Markets
International

Industrial Sectors
Oil, Gas, Automotive, Fuel Cells

Web Site
www.ltyr.com

Products or Services
Lightyear Technologies Inc. develops nanotechnology materials and applications. Lightyear's proprietary Two-Dimensional Materials (TDM)™ are a new group of semi-conducting, corrosion-resistant, "smart materials."

The unique characteristics of Lightyear's TDM™ nanomaterials can help industry overcome many challenges, such as making batteries last longer, removing dissolved poisons and salt from water, finding better catalysts for oil refining, or preventing radioactive waste from releasing into the environment.

The company's fully equipped materials laboratory, manufacturing plant, and engineering and administration facilities are located in Vancouver, British Columbia. Lightyear also has a nanotechnology research and corporate office in Bellingham, Washington.

NSERC Researchers
Robert Frindt, a professor in the Department of Physics at Simon Fraser University, was one of the primary investigators into the technology that formed Lightyear Technologies Inc. Dr. Frindt's research in nanostructured materials was funded in part by NSERC discovery, infrastructure, research tools and instruments, and strategic project grants.

LMI Technologies Inc. Automotive Div

President
A. Chaudhary

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N8T 3B7

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Email
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Annual Revenue
$8,000,000

Number of Employees in Canada
45

Year Incorporated
1971

Stock Market Listing
N/A

Principal Markets
North and South America, Europe

Industrial Sectors
Automotive Assembly

Web Site
www.lmint.com

Products or Services
Canadian software is found in auto assembly lines around the world, such as DaimlerChrysler, General Motors, Peugeot, Renault, and BMW to name a few. These companies use DSight software from LMI Technologies Inc.'s automotive division (formerly known as Diffracto Limited). DSight is an optical image enhancement technique that analyzes dings, dents, wrinkles, and other defects on surfaces such as sheet metal, glass, and plastic. The software provides an objective opinion on quality control and has played a key role in improving the quality standards of many car makers. LMI Technologies also builds products for the measurement of automotive sheet metal assemblies. These laser-based optical sensors are used in line during the manufacturing of the assemblies providing 100% process quality control.

NSERC Researchers
University of Windsor mechanical engineering professor Dr. Walter North and two of his students are the founders of Diffracto Limited, now part of LMI Technologies Inc. Their research on optical concepts has been supported by NSERC discovery grants.

Lumenon Innovative Lightwave Technologies Inc.

President and Chief Executive Officer
Gary S. Moskovitz

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Annual Revenue
Development Stage

Number of Employees in Canada
90

Year Incorporated
1998

Stock Market Listing
Exchange: Nasdaq
Symbol: LUMM

Principal Markets
International

Industrial Sectors
Fibre Optics

Web Site
www.lumenon.com

Products or Services

Lumenon Innovative Lightwave Technologies Inc. designs, develops and manufactures integrated optics devices. The photonic devices, which are compact hybrid glass circuits on silicon chips, are based on Lumenon's patented PHASIC™ (Photonic Hybrid Active Silica Integrated Circuits) low-temperature design process and manufacturing methodology. The company's PHASIC™ technology offers communication providers the ability to dramatically increase bandwidth for the rapidly growing telecommunications, data communications, and cable industries.

Lumenon's PHASIC™ technology combines the best features of organic polymers and glass to produce a sophisticated hybrid material for integrated optics, which can be integrated with fibre optic networks and equipment. This will allow telecom service providers to send more data over existing fibre optic lines. A flexible process design and cost-effectiveness make Lumenon's PHASIC™ photonic devices adaptable to a wide range of telecommunications, data communications, computer network and sensor applications.

NSERC Researchers

Lumenon Innovative Lightwave Technologies Inc. was founded by Drs. S. Iraj Najafi and Mark Andrews, the company's vice-president and chief technology officer. Dr. Andrews is also an associate professor in the Department of Chemistry at McGill University where he has developed new photonic glasses and polymers. Dr. Najafi founded the Photonics Research Group at École Polytechnique to research and develop new materials, processes and devices in integrated optics. NSERC directly supported the research that led Drs. Najafi and Andrews to form Lumenon with strategic project, discovery, and technology partnerships grants.

MacDonald Dettwiler and Associates Inc. (MDA)

Chief Executive Officer
Daniel E. Friedmann

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(604) 273-9830

Email
info@mda.ca

Annual Revenue
$480,000,000 (2001)

Number of Employees in Canada
1,400

Year Incorporated
1969

Stock Market Listing
Exchange: TSX
Symbol: MDA

Principal Markets
International

Industrial Sectors
Information Systems, Observation and Sensing, Defence, Land Information

Web Site
www.mda.ca

Products or Services
MacDonald Dettwiler and Associates Ltd. (MDA) is one of Canada's leading information companies, providing customers around the world with systems and services for the following markets: earth observation, land information, space, defence, transportation, and business. MDA has exported products and services to over 35 nations around the world and has installed over 85 per cent of the world's civilian earth observation ground stations. The company is structured into two main areas: information systems and information products.

MDA was selected by the Canadian Space Agency as prime contractor and owner of Canada's RADARSAT-2 satellite, scheduled for launch and operation in 2003. As such, MDA is responsible for systems design, development, construction, launch, operation and data commercialization.

In 1999, the company acquired the robotics division of Spar Aerospace (now MD Robotics), developers of the Canadarm for NASA. It also acquired RADARSAT International, worldwide distributors of satellite imagery for mapping, environmental monitoring, and disaster management applications. Recent acquisitions include Earthsat, Dataquick, Atlantic Technologies, and Triathlon Mapping.

NSERC Researchers
MacDonald Dettwiler and Associates Ltd. (MDA) was co-founded by Vern Dettwiler and John MacDonald. Dr. Dettwiler is an expert in computer systems engineering and digital communications. He was the head of the New Projects Unit at the University of British Columbia's Computing Centre from 1966 to 1971. Dr. MacDonald specializes in remote sensing and image processing. He was an electrical engineering professor at the University of British Columbia and one of the founding members of the B.C. Science Council. Dr. Dettwiler received NSERC/NRC grants.

MathResources Inc.

Chief Executive Officer
Ron Fitzgerald

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Email
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Annual Revenue
Confidential

Number of Employees in Canada
12

Year Incorporated
1996

Stock Market Listing
N/A

Principal Markets
International

Industrial Sectors
Education

Web Site
www.mathresources.com

Products or Services
The underpinning of a technological society is a comprehensive understanding of mathematics. To that end, MathResources Inc. focuses specifically on developing the most robust math software available to teachers and students alike. The company's mission is to be the world leader in interactive software and on-line content for mathematics.

Launched in 1998, MathResources unites the expertise of a mathematician, a computer scientist and a publishing executive. This combination of academic research and publishing experience provides MathResources with the broad-based skills necessary for success. These individuals provide the research and development alliances, authors and the evaluation and reviewing personnel required for the construction of sound, robust software.

MathResources has excellent lead products, licences, alliances and contracts that are producing revenue and building a strong competitive position. The company also provides programming and consulting services to a variety of organizations. Current products include *Let's Do Math: Tools & Things*; *Let's Do Math: Graphing & Calculating*; *MRI-Graphing Calculator (Windows CE)*; *MRI-DataLINK*; and *The MathResource: Interactive Math Dictionary*. MathResources is poised to expand rapidly into each segment of the lucrative math education market.

NSERC Researchers
MathResources Inc. was founded by Drs. Jon Borwein and Carolyn Watters and Mr. Ron Fitzgerald. Dr. Borwein is currently the Director of the Centre for Experimental and Constructive Mathematics at Simon Fraser University in British Columbia and a mathematics professor. Dr. Watters is an associate professor of computer science at Dalhousie University and former head of the university's e-commerce program. She is a leading researcher in the area of broadband transmission, interface design and e-business. Both Drs. Borwein and Watters receive NSERC discovery grants.

MBEC Biofilm Technologies Ltd.

Chief Executive Officer
Ken Boutilier

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mbec@nucleus.com

Annual Revenue
Confidential

Number of Employees in Canada
5

Year Incorporated
1996

Stock Market Listing
N/A

Principal Markets
North America

Industrial Sectors
Diagnostics, Drug Development and Screening

Web Site
www.nucleus.com/~mbec

Products or Services
Many common bacterial pathogens exist as biofilms in plants, animals, and humans. Biofilms form when bacteria attach to surfaces exposed to shear force. Typical biofilm diseases include Pierce's disease in wine crops, bovine mastitis, device-associated infections (catheters, artificial hips), cystic fibrosis lung infections, prostatitis, and inner ear infections. Not only are these infections generally chronic, they are very often difficult to treat given that biofilms are less susceptible to antibiotics than suspension cultures of the same organism.

MBEC Biofilm Technologies Ltd. has developed a valuable, new technology — the Calgary Biofilm Device (CBD) — that permits the selection of effective antibiotics for treatment of biofilm-related infections and biocides for disinfecting contaminated inert surfaces. The CBD measures the Minimum Biofilm Eradication Concentration, which is the concentration of an antimicrobial agent required to kill the biofilm. The device allows for the selection, from existing antibiotics and biocides, of the most appropriate treatment of biofilms and provides a platform for the development of the next generation of antimicrobials selected for activity against biofilms.

NSERC Researchers
MBEC Biofilm Technologies Ltd. was co-founded by Drs. Howard Ceri, Merle Olson, Douglas Morck, Andre Buret, and Ron Read of the University of Calgary. Dr. Ceri is a professor in the Department of Biological Sciences and chairman of the Biofilm Research Group. NSERC has supported his research with discovery, and research tools and instruments grants. Dr. Olson holds the Westaim/ASRA Chair in Biofilm Research in the Faculty of Medicine and is an adjunct professor in the Department of Biological Sciences, a university veterinarian, and the director of the Medicine Animal Resource Centre. NSERC has supported Dr. Olson's research through discovery, research tools and instruments, and strategic project grants. Dr. Morck, an associate professor of biological sciences and director, Life & Environmental Sciences Animal Resource Centre, received NSERC discovery and research tools and instruments grants. Dr. Buret is an associate professor whose work has been supported by discovery, and research tools and instruments grants.

MDS Sciex

President
Dr. Andy Boorn

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Email
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Annual Revenue
$81,000,000

Number of Employees in Canada
450+

Year Incorporated
1974

Stock Market Listing
Exchange: NYSE
Symbol: MDZ

Exchange: TSX
Symbol: MDS

Principal Markets
International

Industrial Sectors
Pharmaceutical, Biotechnology, Environment, Semiconductor

Web Site
www.sciex.com

Products or Services
MDS Sciex is the analytical instrumentation division of MDS Inc., a diversified health and life sciences company. As a global leader in the research, design and development of mass spectrometers, MDS Sciex will be making a significant impact on the understanding of protein function in the field of proteomics and metabolomics. Through the development of innovative mass spectroscopy-based tools, MDS Sciex will extend the bioanalytical capabilities of scientists in the field of proteomics and metabolomics.

At the pinnacle of a full range of triple quadrupole platforms offered by MDS Sciex, the API 4000™ system creates a new standard for ruggedness and reliability that enables even greater productivity and simplicity. The API 150ex, API 2000™ and API 3000™ are also part of the comprehensive line of advanced technology solutions for LC/MS and LC/MS/MS (Liquid Chromatography/ Tandem Mass Spectrometry).

The API QSTAR™ Pulsar Quadrupole Time-of-Flight system provides the highest sensitivity for precursor and product ion scanning in LC/MS/MS experiments.

The ELAN® DRC II ICP-MS offers the best detection limits in trace element determination. It eliminates interferences before they reach the quadrupole mass spectrometer. The ELAN® 9000 is ideal for environmental, clinical, geochemical, and general testing laboratories with moderate to heavy loads of ultratrace level samples. ICPMS products are offered through PerkinElmer/MDS Sciex.

NSERC Researchers
MDS Sciex was incorporated in 1974 by a group of researchers headed by Dr. Barry French at the Institute of Aerospace Studies of the University of Toronto. Dr. French, now retired from academic life, has been supported by NSERC discovery and research tools and instruments grants for his research into the detection of trace substances.

MDS Sciex contributes to the development of Canadian researchers through its involvement in NSERC's Industrial Research Fellowships program. In 1995, the company co-sponsored the NSERC-Sciex industrial research chair in scientific instrumentation at the University of British Columbia. In 1998, MDS Sciex co-sponsored the NSERC-Sciex industrial research chair in analytical mass spectrometry at York University. MDS Sciex is an industrial partner with NSERC in funding four other major projects at Canadian universities and supports several other Canadian university laboratories and research institutes.

MÉDICTUS RECHERCHE INC.

PRESIDENT
Charles Lavigne

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ANNUAL REVENUE
Confidential

NUMBER OF EMPLOYEES IN CANADA
5

YEAR INCORPORATED
2001

STOCK MARKET LISTING
N/A

PRINCIPAL MARKETS
Confidential

INDUSTRIAL SECTORS
Nutraceuticals and Functional Foods

WEB SITE
N/A

PRODUCTS OR SERVICES

Médictus Recherche Inc. was founded in 2001 as the first start-up company from the Institut des nutraceutiques et des aliments fonctionnels at Université Laval. The company identifies, develops and markets bio-molecules that have nutraceutical applications in the prevention and treatment of diabetes and cardiovascular diseases.

Internationally recognized for their work on the effects of dietary proteins on the prevention of diabetes and cardiovascular diseases, the founders enabled Médictus to develop a complete and unique technological platform. This platform is comprised of a biosensor screening system that uses cellular and animal models.

Scientists at Médictus have succeeded in isolating three bio-molecules, derived from fish protein. The company's first fish protein-based products should be ready for commercialization in 2003.

The World Health Organization estimates that 135 million people suffer from diabetes worldwide. In Canada alone, there are two million diabetics, which costs the healthcare system $9 billion a year.

NSERC RESEARCHERS

Médictus Recherche Inc. was founded by three researchers from the Institut des nutraceutiques et des aliments fonctionnels at Université Laval. Charles Lavigne, the company's president, and Drs. Hélène Jacques and André Marette. Dr. Jacques is a professor in the Department of Food Sciences and Nutrition, while Dr. Marette is a professor in the Department of Anatomy and Physiology at Université Laval. NSERC has supported these two researchers since 1989 through discovery, and research tools and instruments grants.

Membrane Reactor Technologies Ltd.

Chief Executive Officer
Dr. John R. Grace

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Annual Revenue
Confidential

Number of Employees in Canada
10

Year Incorporated
1998

Stock Market Listing
N/A

Principal Markets
North America

Industrial Sectors
Fuel Processors

Web Site
www.membranereactor.com

Products or Services

Membrane Reactor Technologies Ltd. (MRT) is commercializing its patented Fluidized Bed Membrane Reactor (FBMR) technology for the production of pure hydrogen. This state-of-the-art technology supplies hydrogen for fuel cells, food processing, chemical synthesis, and oil refining.

A membrane reactor is a device that simultaneously carries out a reaction and membrane-based separation in the same physical enclosure. A membrane reactor offers higher yields, better selectivity, and lower costs than a single reactor. The MRT FBMR reactor combines in a single unit fluidized catalyst particles and semi-permeable inner surfaces, called membranes, that extract pure hydrogen as it is produced. This single vessel replaces two reactors (steam methane reformer and shift converter) and a pressure-swing absorption unit in the conventional process by which most hydrogen is produced.

NSERC Researchers

Membrane Reactor Technologies Ltd. was founded by Drs. Alaa-Eldin Adris, C. Jim Lim, Said Elnashaie, John Grace, Barry Pruden and Surajit Roy. Drs. Grace and Lim are both professors in the Department of Chemical and Biological Engineering at the University of British Columbia. They are leading authorities on fluidization and chemical reaction engineering. Their work has been supported by NSERC discovery, industrially oriented research, research tools and instruments, and strategic project grants. Dr. Pruden was also supported by NSERC and held an NSERC Industrial Research Chair in Hydrogen Technology while a professor at the University of Calgary. Both Drs. Adris and Roy were graduate students when they first worked on the FBMR process.

Micrologix Biotech Inc.

President and Chief Operating Officer
Dr. Jim DeMesa

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Annual Revenue
$2,000,000 (2002)

Number of Employees in Canada
53

Year Incorporated
1993

Stock Market Listing
Exchange: TSX
Symbol: MBI

Principal Markets
North America

Industrial Sectors
Pharmaceuticals

Web Site
www.mbiotech.com

Products or Services
Micrologix Biotech Inc. is engaged in the research, development and commercialization of drugs that advance therapy, improve health, and enrich lives. The company's particular focus is on anti-infective drug development, with two product candidates in clinical trials in the U.S.: MBI 226 for preventing central venous catheter-related bloodstream infections (Phase III) and MBI 594AN for treating acne (Phase II).

In hospitals around the world, the misuse and over-prescription of antibiotics, coupled with the extraordinary ability of microorganisms to acquire drug resistance, are making infections that were once easily treatable now increasingly resistant to conventional antibiotics. Potentially lethal multidrug-resistant bacterial strains are also imposing an enormous cost on human health and on the healthcare system.

Micrologix has concentrated on developing these drugs from peptides to treat the most serious hospital-acquired infections. The company is also exploring these peptides for their ability to treat cancer, fungal infections, and other diseases.

NSERC Researchers
Dr. Robert E.W. Hancock is a professor in the Department of Microbiology and Immunology and the director of the Centre for Microbial Diseases and Host Defense at the University of British Columbia. He also holds a Canada Research Chair in Microbiology. Dr. Hancock has twelve patents to his credit and several pending for different types of cationic peptides. His lab developed a way to mass-produce various peptides through recombinant DNA technology, which was licensed to Micrologix Biotech Inc. NSERC has supported Dr. Hancock's research with discovery, and research tools and instruments grants.

Millenium Biologix Inc.

Chief Executive Officer
Sydney Pugh

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Annual Revenue
$4,000,000

Number of Employees in Canada
21

Year Incorporated
1992

Stock Market Listing
N/A

Principal Markets
International

Industrial Sectors
Pharmaceuticals, Medicine, Medical Devices and Systems

Web Site
www.millenium-biologix.com

Products or Services
Millenium Biologix Inc. has developed a biomaterial, a synthetic peptide growth factor, that will make healing from bone loss much easier. Bone loss may be caused by a disease, such as cancer, or by a traumatic accident. With a similar chemistry and physical structure to real bone, Millenium's synthetic Skelite™ bone material is bioactive, which means that the body treats it as if it was natural. Since the body accepts the material well, it can be used to replace normal tissue during the healing process. This material stimulates normal biological processes that speed healing and attracts bone growth proteins and many of the drugs used to treat osteoporosis and other bone diseases. As healing takes place, the synthetic bone is gradually and safely reabsorbed into the body and replaced by new and healthy bone cells. Millenium's product is in a class of materials already recognized and well accepted by international regulatory agencies, so approval is not expected to be as complex as it is for many other health products. Millenium's synthetic bone is currently used in the research and pre-clinical trial markets in a diagnostic product line for testing treatments for bones diseases. Further research has produced implantable versions of the technology for the orthopedic, dental, and biotechnology markets. Initial tests have been favourable, showing that the material promotes rapid healing and long-term stability. Clinical market entry is expected in 2002. Recent developments include expansion into cartilage and bone tissue engineering through the establishment of a Swiss subsidiary, Millenium Biologix AG in Zurich.

NSERC Researchers
Millenium Biologix Inc.'s bone material was co-invented by Drs. Mike Sayer and John Davies. Dr. Sayer is a professor of solid state physics at Queen's University. Dr. John Davies is a professor of biomaterials at the University of Toronto. Their research and collaboration resulted in the formation of Millenium. Both researchers have received NSERC support for their work on biomaterials.

Molecular Mining Corporation

President and Chief Executive Officer
Dr. Evan Steeg

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Email
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Annual Revenue
Confidential

Number of Employees in Canada
40

Year Incorporated
1999

Stock Market Listing
N/A

Principal Markets
International

Industrial Sectors
Data Mining, Drug Discovery, Bioinformatics and Cheminformatics

Web Site
www.molecularmining.com

Products or Services

Molecular Mining Corporation specializes in the exploration and prediction of molecular networks derived from gene expression, proteomics and SNPs (single nucleotide polymorphisms) data. The company also specializes in the application of these network models to diagnostic and drug target identification, predictive toxicology, and drug screening. The company's data mining software serves pharmaceutical, biotechnology, and genomics companies worldwide.

Molecular Mining's first line of data mining software products, GeneLinker™, gives researchers the tools to mine vast databases of genetic and genomic information. This will lead them to uncover patterns and correlations in gene expression and allow the researchers to unravel the complex genetic interactions that characterize disease and drug response. The company also serves its customers through its Collaborative Services business unit and has an internal Discoveries unit.

The company's GeneLinker™ software has been used in several applications for drug discovery. The software has predicted the recurrence of cancer after surgery, selected subsets of genes for focused drug screening, and predicted the activity of anti-cancer drugs.

NSERC Researchers

Molecular Mining Corporation was founded by Evan Steeg, the company's president and CEO, Dr. Larry Hunter of the University of Colorado at Boulder, Drs. Suzanne Fortier and Janice Glasgow of Queen's University, and Dr. Donald Weaver of Dalhousie University. Dr. Suzanne Fortier is a professor in both the Department of Chemistry and the Department of Computing and Information Science. She is also vice-principal (academic) at Queen's and served as NSERC's vice-president from 1997 to 2002. In addition, Dr. Fortier is the chair of the Ontario Science and Innovation Council. Her research has been supported by numerous NSERC discovery, strategic project, collaborative research and development, and research tools and instruments grants.

Dr. Janice Glasgow is a professor in the School of Computing at Queen's. She is the director of the Computational Imagery Laboratory, a co-director of the Molecular Scene Analysis Laboratory, and has been named a Queen's Research Chair. NSERC has supported Dr. Glasgow's research in computational imagery with discovery, research tools and instruments, strategic project, and collaborative project grants.

Dr. Donald Weaver is a professor of chemistry at Dalhousie University, a Canada Research Chair in Clinical Neuroscience, and a practicing clinician specializing in the management and treatment of Alzheimer's disease and epilepsy. Dr. Weaver, a leading expert in computer-aided drug design, has received NSERC collaborative research and development, discovery, and research tools and instruments grants.

MycoLogic Inc.

Chief Executive Officer
Dr. William Hintz

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Annual Revenue
Confidential

Number of Employees in Canada
7-9

Year Incorporated
1994

Stock Market Listing
N/A

Principal Markets
North America

Industrial Sectors
Environment

Web Site
http://web.uvic.ca/idc/mycologic/mycoindx.htm

Products or Services
MycoLogic Inc. is clearing the way for the safe and effective control of fast-growing deciduous trees, often considered to be forest "weeds" in reforestation sites. These hardwood trees consume large amounts of light, nutrients, and water. They also take up a lot of space, pose a hazard to power lines, and threaten to overgrow roadways, pipelines, parklands and recreation areas. MycoLogic's first product, CHONTROL™, uses a naturally occurring fungus, *Chondrostereum purpureum*, to maintain clearings by preventing the resprouting of these problematic deciduous trees. CHONTROL™ was the first biological control agent used in the Canadian forestry sector.

Current strategies to control deciduous tree growth involve cutting, burning, or treating brush with chemical herbicides. These practices can be costly, dangerous, and damaging to the environment. ECO-clear is a cost-effective and environmentally safe alternative to chemical herbicides. It is non-toxic, does not build up in the environment, and its effects are limited to the area where it is applied.

NSERC Researchers
MycoLogic Inc. was founded by Dr. William Hintz, an associate professor of biology at the University of Victoria, specializing in plant pathogens and genetics. He has done extensive research in collaboration with the Canadian Forestry Service's researchers Drs. Ron Wall and Simon Shamoun. Dr. Hintz's work is supported through NSERC discovery, industrially oriented research, and research tools and instruments grants.

NEOKIMIA Inc.

Chief Executive Officer
Caroline Fortier

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Annual Revenue
Confidential

Number of Employees in Canada
30

Year Incorporated
1998

Stock Market Listing
N/A

Principal Markets
International

Industrial Sectors
Pharmaceuticals

Web Site
www.neokimia.com

Products or Services

NEOKIMIA Inc. is a drug discovery company devoted to the development and advancement of novel chemistry-based technologies for the generation and optimization of high-quality lead candidates for a broad range of pharmaceutical targets. NEOKIMIA's proprietary core technology integrates advanced organic synthesis and combinatorial chemistry capabilities with computational and molecular modeling methods to produce libraries of novel, conformationally defined macrocyclic molecules. This strong chemistry platform provides a powerful enabling technology for the rapid and efficient discovery of new pharmaceutical lead compounds. Over 25,000 macrocycles have been produced thanks to this methodology. The company's major goal is to widely apply this unique technology to appropriate therapeutically relevant biological systems.

Moreover, the NEOKIMIA approach meets the challenges created by the recent advances in genomics and proteomics, which are providing a large number of potential therapeutic targets for pharmaceutical intervention. It successfully exploits combinatorial chemistry and high throughput screening to create a unique tool for rapidly obtaining critical information about the binding characteristics of these new targets.

NEOKIMIA uses two different strategies. The first is a broad-based approach in which lead molecules can be identified for a given therapeutic target from a general screening library. The second involves a focused approach in which specific structures are designed against relevant targets where some structural or activity information is already known. In both cases, the design of the libraries is based on optimizing diversity in terms of chemical composition, three-dimensional shape, and appropriate physicochemical properties (Lipinski Rules).

NSERC Researchers

NEOKIMIA Inc. was founded by Dr. Pierre Deslongchamps, a professor of chemistry at the Université de Sherbrooke. One of Canada's most celebrated researchers, Dr. Deslongchamps has received many important international honours; he was made a Fellow of the Royal Society in 1983 and a Member of the Academy of Science of Paris in 1995. In 1993, Dr. Deslongchamps was awarded Canada's top honour for researchers, the Canada Gold Medal for Science and Engineering. Dr. Deslongchamps receives NSERC funding for his work through discovery, university-industry, and research tools and instruments grants.

New Orbit Technologies Inc.

Chief Executive Officer
Dr. Barna Szabados

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Email
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Annual Revenue
$350,000

Number of Employees in Canada
3

Year Incorporated
1988

Stock Market Listing
N/A

Principal Markets
Canada

Industrial Sectors
Utilities, Power Systems, Instrumentation

Web Site
http://home.cogeco.ca/~dimandsave/

Products or Services
New Orbit Technologies Inc. helps Ontario Hydro save hundreds of thousands of dollars. The company has modified some of Ontario Hydro's aging transformers rather than replace them, and uses them at power ratings higher than those for which they were designed. New Orbit Technologies has developed an effective method for predicting losses in tank walls and magnetic structures in large transformers, which allows the design to be optimized. Westinghouse Canada Inc. is also one the company's major clients. Westinghouse's motor division benefited from the introduction of advanced CAD design and motor testing. New Orbit Technologies also designed and installed a new electronic inter-plant communication system and databank exchange.

New Orbit Technologies has developed a special dimmer for magnetic ballast fluorescent light control (U.S. patent). This revolutionary product is now in a beta test phase in an office building in Toronto, Ontario. Preliminary field tests have shown savings in light management of up to 50 per cent. Aside from saving considerable amounts of energy, it can easily be fitted to existing units and improves power quality and lighting conditions by removing the flicker on magnetic ballast fluorescent lighting.

New Orbit Technologies has also been active in developing instrumentation software such as a PC-driven real-time oscilloscope (up to 80KHz acquisition), and various other software tools for distant education multimedia technology, both in software engines (expert system testing) and courseware in power electronics.

NSERC Researchers
New Orbit Technologies Inc. was founded by Barna Szabados, a professor of electrical and computer engineering at McMaster University. NSERC supports Dr. Szabados' research with discovery, research tools and instruments, and collaborative research and development grants. Dr. Szabados and his colleagues are currently developing a multimedia software system with Java engine, allowing remote hardware control of a laboratory, as well as special teaching techniques in multimedia. Part of this research was transferred to another company formed by a Ph.D. student, and the technology was recently sold to Sun Microsystems.

Newmerical Technologies International

President and Chief Scientific Officer
Dr. Wagdi Habashi

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Annual Revenue
Confidential

Number of Employees in Canada
15

Year Incorporated
1998

Stock Market Listing
Exchange: TSX
Symbol: CFD

Principal Markets
International

Industrial Sectors
Aerospace, Automotive, Architectural

Web Site
www.newmerical.com

Products or Services
Newmerical Technologies International (NTI) provides state-of-the-art software and engineering services for multi-disciplinary Computational Fluid Dynamics (CFD) simulations. Its software is used by engineers, environmentalists, and architects to simulate situations, in nature and industry, that involve fluid flow and heat transfer. This allows for the rapid and accurate virtual design of a component or a process, without the need to build a prototype. NTI has found wide applications for its CFD simulations in the aerospace, automotive, architectural, naval, power and process, and food and beverage industries.

NTI's most recent engineering projects include: design optimization of icing protection systems for aircraft; aerodynamics of regional and jumbo jets; scientific forensic investigation of icing-related crashes; a flight simulator for helicopter landings in the airwakes of warships' and oilrigs' superstructures; and wind loading and snow effect on urban developments and on solar panels. Beverage and ice cream companies have found novel applications for NTI's software for the optimization of soda fountain dispensing nozzles and ice cream freezing lines.

NSERC Researchers
Dr. Wagdi (Fred) Habashi, president of Newmerical Technologies International, is a McGill University professor of mechanical engineering, the director of its renowned Computational Fluid Dynamics Laboratory and the project leader of the CLUMEQ (Consortium Laval UQAM, McGill and Eastern Quebec) Supercomputer Centre. He also holds an NSERC Industrial Research Chair sponsored by the J. Armand Bombardier Foundation with the participation of Silicon Graphics Inc.

Newmerical is the result of 25 years of Dr. Habashi's university research. NSERC supports Dr. Habashi's work with discovery, strategic project, and research tools and instruments grants. In 1988, Dr. Habashi was awarded an NSERC E.W.R. Steacie Fellowship for outstanding research in the field of computational aerodynamics. His long-term collaboration with Pratt & Whitney Canada (he holds the title of Pratt & Whitney Research Fellow) received a University-Industry Synergy Award for Innovation honourable mention in 1995.

Nexia Biotechnologies Inc.

President and Chief Executive Officer
Dr. Jeffrey D. Turner

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Annual Revenue
Confidential

Number of Employees in Canada
87

Year Incorporated
1993

Stock Market Listing
Exchange: TSX
Symbol: NXB

Principal Markets
Domestic, International

Industrial Sectors
Pharmaceuticals, Biomaterials, High Performance Fibres

Web Site
www.nexiabiotech.com

Products or Services
Nexia Biotechnologies Inc. develops and manufactures complex recombinant proteins in the form of biomaterial and biopharmaceutical products with industrial and medical applications. The company's lead product, BioSteel® is based on recombinant spider silk proteins. Spider silk has long been admired by material scientists for its unique combination of toughness, strength, lightness, and flexibility. Nexia has exclusive worldwide rights to broad patents covering spider silk genes and proteins. It is also in the process of developing commercial quantities of BioSteel® using its proprietary transgenic goat technology.

In January 2002, Nexia and the U.S. Army reported in the journal *Science* the world's first spider silk fibers spun from man-made materials with properties similar to natural spider silk. Thanks to this proof of principle, Nexia is now working with the U.S. Army and other partners to develop multiple commercial applications for BioSteel®. These applications include Nexia's medical device product line, BioSteel®-M, which includes medical sutures, surgical meshes and arterial grafts, as well as Nexia's industrial product line, BioSteel®-I, which includes biodegradable fishing lines, soft body armor and unique material composites.

Nexia's proprietary transgenic goat technology involves a specialized breed of goat, called BELE® (**B**reed **E**arly, **L**actate **E**arly), which allows the company to produce large quantities of protein quickly and economically. As proof of principle, Nexia developed a herd of transgenic goats each bearing the gene that directs the production of human tissue plasminogen activator (htPA) protein in their milk. This complex protein is similar to one currently available for the treatment of heart attacks. Nexia believes htPA may have potential in overseas markets for the treatment of myocardial infarction or as a way to clear blocked catheters.

Nexia's headquarters is in Vaudreuil-Dorion near Montreal. Its clinical-grade BioSteel®-M production farm is located in St. Télesphore, Québec, and its industrial-grade BioSteel®-I production farm in Plattsburgh, New York. In December 2000, Nexia raised $42 million in Canada's largest life sciences initial public offering.

NSERC Researchers
Dr. Jeffrey Turner founded Nexia Biotechnologies in 1993 and has served as president and CEO since. Formerly an associate professor of animal science at McGill University, Dr. Turner is a specialist in mammalian cell culture and has performed extensive research with dairy cattle. Dr. Turner's research at McGill was supported by NSERC through discovery grants and a collaborative research and development grant. Dr. Turner resigned his tenured position at McGill University so that he could use his research findings to produce high-value recombinant proteins.

Northern Radar Inc.

Chief Executive Officer
Barry J. Dawe

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Annual Revenue
Confidential

Number of Employees in Canada
7

Year Incorporated
1986

Stock Market Listing
N/A

Principal Markets
International

Industrial Sectors
Navigation

Web Site
N/A

Products or Services
Northern Radar Inc. has developed a state-of-the-art Surface Wave Radar (SWR) system that can monitor over 225,000 square kilometres of the ocean surface while providing timely activity reports. The task of surveillance of an Exclusive Economic Zone (EEZ), requiring observation of millions of square kilometres of ocean, can benefit tremendously from using Northern's SWR technology. The SWR technology can detect icebergs, measure ocean waves, monitor surface currents, track low flying aircraft, and track vessels located up to 450 kilometres from shore.

SWR systems transmit at frequencies in the HF frequency band, at frequencies several orders of magnitude lower than traditional radar systems. The ocean surface is highly conductive, which effectively "guides" vertical polarized HF radio signals with very low attenuation. As a result, HF SWR systems can provide coverage to 250 nautical miles range. The versatility of the system has attracted the interest of industry, government, and academia. Oil companies use the system to follow ocean wave conditions to protect their offshore rigs. Information about surface currents helps biologists to estimate fish stocks and Search and Rescue teams to track lifeboats. The Northern Radar technology is more affordable than satellite systems and is able to operate in real-time, with continuous coverage of the monitored zone.

NSERC Researchers
Northern Radar Inc.'s ground wave radar system was developed by Dr. John Walsh, an emeritus professor at Memorial University of Newfoundland. Dr. Walsh has investigated ground wave radar systems since 1981, with the support of NSERC discovery, strategic project, and collaborative research and development grants. He now serves as vice-president, R&D, at Northern Radar.

Novator Systems Ltd.

Chief Executive Officer
Dr. Mark S. Fox

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Email
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Annual Revenue
$6,600,000 (2000)

Number of Employees in Canada
50

Year Incorporated
1992

Stock Market Listing
N/A

Principal Markets
International

Industrial Sectors
E-commerce

Web Site
www.novator.com

Products or Services
Novator Systems Ltd. is a leading e-commerce services and software company. The company designs, builds, hosts, monitors and maintains complete e-commerce solutions for clients like FTD.com, Sony, and Kanetix. The company also delivers self-serve Web sites for members of direct sales organizations and professional associations, such as Royal Architects Institute of Canada, National Federation of Professional Trainers, and FTD Inc. Novator's self-serve Web site platform offers clients a low-cost, easy-to-use interface that guarantees a feature-rich presence on the Web.

Novator's expertise in all aspects of e-commerce — from e-merchandizing to e-marketing — caught the attention of FTD, the world's premier florist, in 1994. Novator now powers and manages FTD.com, a complex system that includes databases that hold pricing and product information, e-commerce applications that process customer transactions, a back-end credit card verification system, and a content-delivery network service. FTD.com leads the major on-line flower retailers with its easy ordering procedures, a wide selection of customized products, and access to special promotions and customer loyalty programs.

Novator is set to launch its first software product, MangoMoon. MangoMoon is an artificial intelligence-based software capable of natural language conversations. With its sophisticated problem-solving capabilities, it is able to solve customer problems. MangoMoon is initially focused on customer service interactions in sectors such as retail, telecommunications, and banking. It is a multi-channel solution that is able to carry out conversations over Web chat, voice and e-mail.

NSERC Researchers
Novator Systems Ltd. was founded by Mark and Tressa Fox. Dr. Mark Fox, the company's chairman and CEO, is a professor of industrial engineering with cross appointments in the Department of Computer Science and the Faculty of Management Science at the University of Toronto. Dr. Fox heads the Enterprise Integration Laboratory and holds the NSERC Industrial Research Chair in Enterprise Integration. NSERC has supported Dr. Fox's research with discovery and technology partnership grants.

NxtPhase Corporation

Chief Executive Officer
Kip Smith

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Annual Revenue
Confidential

Number of Employees in Canada
75

Year Incorporated
1999

Stock Market Listing
N/A

Principal Markets
International

Industrial Sectors
Power Technology

Web Site
www.nxtphase.com

Products or Services

NxtPhase Corporation develops digital and fiber-optic solutions that will change the way high-voltage electric power is managed by utilities worldwide. NxtPhase products improve reliability in energy-supply systems through innovations in digital protection and fiber-optic measurement.

NxtPhase electric power sensors offer superior performance over existing technologies, with unparalleled higher accuracy, broader dynamic range, wider bandwidth, improved safety, and environmental benefits. At a fraction of the weight of older equipment, NxtPhase sensors are a lighter, much less bulky alternative, allowing easy installation in the field.

In 2001, NxtPhase acquired APT Power Technologies — a Winnipeg-based firm specializing in digital protection and monitoring solutions. NxtPhase was also presented with a 2000 NSERC Synergy Award for Innovation.

NSERC Researchers

NxtPhase Corporation was co-founded by Dr. Nicolas Jaeger, a professor of electrical and computer engineering at the University of British Columbia. Dr. Jaeger pioneered NxtPhase integrated-optic voltage sensing technology. NSERC has supported Dr. Jaeger's work with collaborative research and development, discovery, research tools and instruments, cooperative activities, and industrially oriented project grants. Dr. Jaeger also works closely with JGKB Photonics Inc., another company he founded, to guide their technology development.

Dr. Farnoosh Rahmatian, the director of R&D at NxtPhase, is a former NSERC Industrial Postdoctoral Fellow who worked with Dr. Jaeger at the University of British Columbia.

Ocean Nutrition Canada Ltd.

General Manager
Robert Orr

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Annual Revenue
Confidential

Number of Employees in Canada
165

Year Incorporated
1987

Stock Market Listing
N/A

Principal Markets
North America, Asia

Industrial Sectors
Health and Nutrition,
Pharmaceuticals and Medicine

Web Site
www.ocean-nutrition.com

Products or Services
Ocean Nutrition Canada (ONC) is the leading innovator and vertically integrated provider of quality marine-based natural health and nutritional products to the world market. ONC's top dietary ingredient products include omega-3 essential fatty acids derived from fish and glucosamine.

ONC manufactures products to GMP standards in government certified facilities. ONC uses a proprietary manufacturing process for refining and concentrating omega-3 essential fatty acids from fish that results in the finest quality oil at a cost-effective price. ONC has the only manufacturing plant in North America that can both refine and concentrate omega-3 fish oil in commercial quantities. The manufacturing plant is one of only five in the entire world capable of processing significant amounts of concentrated fish oil.

ONC has North America's largest privately owned research lab dedicated exclusively to the discovery of new marine natural products. ONC has the most sophisticated analytical equipment in the industry, which guarantees the quality, efficacy and consistency of its natural products. Every batch of omega-3 oil produced by ONC is put through more than fifty in-process and final quality checks before it leaves the plant.

NSERC Researchers
The distillation technology used by ONC was developed by Dr. Robert Ackman, Professor Emeritus at the Canadian Institute of Fisheries Technology, Dalhousie University. Dr. Ackman, who sits on ONC's Scientific Advisory Board, is the world's leading expert in marine food sources of omega-3 fatty acids and of fish oil concentrates in capsule form for clinical applications. Dr. Ackman has received NSERC discovery, research tools and instruments, and strategic project grants for his research on fish meal and silage lipids, antioxidants and pigments, and other nutritional matters.

Open Text Corporation

Chief Executive Officer
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Annual Revenue
$147,700,000 (U.S.) 2001

Number of Employees in Canada
350

Year Incorporated
1991

Stock Market Listing
Exchange: Nasdaq
Symbol: OTEX

Exchange: TSX
Symbol: OTC

Principal Markets
International

Industrial Sectors
Information Technology,
Knowledge Management

Web Site
www.opentext.com

Products or Services
Since 1991, Open Text Corporation has delivered innovative software applications that bring people together to share knowledge, achieve excellence, deliver innovation, and enhance processes. Its legacy of innovation began with the successful deployment of the world's first search engine technology for the Internet. Today, as the leading global supplier of collaborative knowledge management solutions for the enterprise, Open Text supports five million users across 4,500 corporations in 31 countries and 12 languages throughout the world.

Collaborative knowledge management (KM) combines the set of practices and technology by which organizations derive maximum benefit from their most strategic asset — knowledge. For the KM system to be effective, it must have three basic elements: a knowledge gathering system, a knowledge distribution system, and a collaborative environment. Open Text's product family, Livelink, is a proven collaborative knowledge management software solution that combines these three elements, enabling organizations to save money, streamline business efficiencies, and drive innovation by allowing people to work together more effectively.

NSERC Researchers
The original technology (the text database management system with the fastest search engine available — searching through 60 million words per second) was developed as part of a collaborative research and development project, conducted by Frank Tompa and Gaston Gonnet. It was funded jointly by NSERC and the Oxford University Press, with additional support from the University of Waterloo and private foundations. Dr. Tompa is a computer science professor at the University of Waterloo. He continues to research data management and structuring and has more recently collaborated with industry in exploring how to augment relational database systems to support XML (Extensible Markup Language). Dr. Gonnet is an adjunct professor at Waterloo and is currently pursuing research in symbolic and algebraic computation, computational biochemistry, and algorithm design and analysis at the Swiss Federal Institute of Technology in Zurich.

Optech Incorporated

Chief Executive Officer
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Annual Revenue
Confidential

Number of Employees in Canada
175

Year Incorporated
1974

Stock Market Listing
N/A

Principal Markets
International

Industrial Sectors
Surveying, Monitoring and Imaging Systems

Web Site
www.optech.on.ca

Products or Services
Since its beginnings in the Department of Physics at York University, Optech Incorporated has grown to be a world leader in the development, manufacture and sale of advanced laser-based instruments. Its products, based on the company's core expertise in pulsed laser radar (lidar), are widely used for terrestrial and marine surveying, space and atmospheric monitoring, 3D laser imaging and industrial process measurements. Optech developed the world's first operational airborne lidar bathymeter, used for precise measurements of underwater marine topography. The Shoals-Hawkeye system, based on early research done at York University, has won Optech an international clientele. Optech's customers include surveying, mining and industrial corporations, research institutes, government departments and international space agencies. Optech has a subsidiary, Optech International, in the U.S. and has strategic alliances with a number of international collaborators. Ninety percent of Optech's business is export, with about three quarters of the world market for commercial airborne laser survey systems. Optech has received the Canadian Award for Business Excellence in Innovation, as well as awards for its achievements in exports and R&D.

NSERC Researchers
Allan Carswell, an emeritus physics professor at York University, founded Optech Incorporated in 1974 to commercialize his research findings on optical radar systems. Dr. Carswell's early research was funded by NRC and, over the years, NSERC has provided consistent support through discovery grants.

Performance Plants Inc.

Chief Executive Officer
Dr. David Dennis

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Annual Revenue
Confidential

Number of Employees in Canada
23

Year Incorporated
1995

Stock Market Listing
N/A

Principal Markets
North America

Industrial Sectors
Food and Agriculture

Web Site
www.performanceplants.com

Products or Services
Performance Plants Inc. brings Canadian crop advances to worldwide markets. The company's suite of technologies increase agricultural productivity and help keep Canada competitive. Its main product lines are crops with enhanced commercial value and improved climate resistance. Performance Plants' products include drought-tolerant canola and forage crops, and plants that photosynthesize in low light conditions. Performance Plants also offers reduced fibre feedstock and oil seeds with enhanced oil synthesis. Many of these technologies were developed at Queen's University, but the company also acquires technology from other universities, Agriculture and Agri-Food Canada, and the National Research Council. To ensure that these innovative products reach the widest possible market, the company has formed strategic alliances with larger businesses.

NSERC Researchers
Performance Plants Inc. was formed by Drs. David Dennis and Daniel Lefebvre, both professors in the Department of Biology at Queen's University. Performance Plants rents research and growth facilities associated with the Biosciences Complex at Queen's and similar facilities associated with Innovation Place in Saskatoon. The research team includes molecular biologists, plant physiologists, and biochemists from Queen's University and elsewhere. The team collaborates extensively with researchers at Agriculture and Agri-Food Canada and NRC's Plant Biotechnology Institute. The group is supported by a variety of NSERC grants.

PHERO TECH INC.

CHIEF EXECUTIVE OFFICER
Stephen Burke, David Wakarchuk

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ANNUAL REVENUE
Confidential

NUMBER OF EMPLOYEES IN CANADA
18

YEAR INCORPORATED
1982

STOCK MARKET LISTING
N/A

PRINCIPAL MARKETS
North and South America, Europe, Australia, New Zealand, Asia

INDUSTRIAL SECTORS
Forestry, Agriculture and Environment

WEB SITE
www.pherotech.com

PRODUCTS OR SERVICES
Phero Tech is a world leader in the development, manufacture, and sale of semiochemical products for forestry and agriculture. Semiochemicals are message-bearing chemicals that insects and other organisms use for communication purposes. For instance, semiochemical lures and traps can be used to monitor pest populations or to mass trap pests as a means of population control or reduction. Phero Tech manufactures and markets QMP, a complex pheromone mixture from the queen honeybee mandibular gland. Phero Tech QMP is the active ingredient in Fruit Boost, a pollination aid for fruit crops, as well as Bee Boost, a product used to manipulate bee behaviour. Phero Tech maintains a laboratory dedicated to semiochemical synthesis, formulation and analysis, as well as a lure and trap manufacturing facility.

Phero Tech resource management services have grown along with the business since 1982. Consulting services for Forest Health Management, Geographic Information Systems, and Wood Borer Management Programs are provided to a variety of resource management clients as decision support tools. For example, Phero Tech has hazard-rated many forest districts and parks in British Columbia for insect pests and diseases.

NSERC RESEARCHERS
Phero Tech's founder, Dr. John Borden, is a professor in the Department of Biological Sciences at Simon Fraser University. His research interests lie in insect chemical ecology and forest pest management. NSERC and NRC have supported Dr. Borden's research through a number of grants since 1967. Dr. Borden works closely with Phero Tech in R&D and participates in the company's technical seminars to clients every year. Phero Tech is Dr. Borden's industrial partner in a two-year collaborative research and development grant.

Platform Computing Inc.

Chief Executive Officer
Robert Gordon

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Annual Revenue
$69,915,689

Number of Employees in Canada
275

Year Incorporated
1992

Stock Market Listing
N/A

Principal Markets
North America, Europe, Asia

Industrial Sectors
Information Technology, Software

Web Site
www.platform.com

Products or Services
Platform Computing Inc. is the world's leading provider of distributed computing software solutions. From desktop to grid computing, Platform's distributed computing solutions optimize existing computing resources to reduce time-to-market, improve the quality of results, and maximize the return on an organization's information technology investments.

Platform's distributed computing solutions combine workload management, resource management, and performance management components. Platform's products operate seamlessly across an organization's computing environment, including networked UNIX, Linux and Windows-based servers, desktops, supercomputers, and clusters.

Platform's distributed computing solutions are deployed in a wide range of industries, including life sciences and pharmaceuticals. The company provides distributed and grid computing solutions to over 1,500 customers worldwide, and its client list reads like the Fortune 500: Nortel Networks, Lucent Technologies, Bombardier Group, DuPont & Co., General Electric, Sony, Hewlett Packard and Deutsche Bank, to name a few.

Platform also has significant partnerships with leading system vendors, including Compaq, HP, IBM, SGI, Fujitsu, Hitachi and Sun Microsystems (all of which are also Platform customers), as well as grid computing partnerships with companies such as IBM, HP, SGI, and Compaq.

NSERC Researchers
Co-founder, Songnian Zhou, is the chairman and chief technology officer of Platform Computing Inc. Dr. Zhou, a professor of computing science at the University of Toronto, invented the LSF (Load Sharing Facility) software. The LSF prototype was tested and applied successfully at Bell Northern Research (BNR) under a collaborative research and development project jointly funded by NSERC and BNR.

As chief technology officer, Songnian Zhou is the driving force behind Platform's product strategy and evolution. In less than ten years, Dr. Zhou has taken Platform Computing from a staff of three in offices at the University of Toronto to a 400-strong, profitable company with offices around the world.

PolyDynamics Inc.

President
Dr. John Vlachopoulos

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Annual Revenue
Confidential

Number of Employees in Canada
3

Year Incorporated
1994

Stock Market Listing
N/A

Principal Markets
US

Industrial Sectors
Plastics

Web Site
www.polydynamics.com

Products or Services
PolyDynamics Inc. is a global supplier of computer-based user-friendly software for simulation, analysis, design and troubleshooting of plastics extrusion and other polymer processing operations.

PolyDynamics' software packages are used in over 300 industrial sites in 27 countries around the world. The company's software helps R&D personnel and process or design engineers at many Fortune 500 companies in the U.S., such as Dow Chemical and DuPont, and other international giants, including Mitsubishi Chemical and Tetrapak (Sweden). The software is also used at smaller companies and university-based research centres.

PolyDynamics is also involved in R&D and consulting projects with several corporations for process simulation, optimization, and equipment design.

NSERC Researchers
Dr. John Vlachopoulos is a professor of chemical engineering at McMaster University. Dr. Vlachopoulos created McMaster's Centre for Advanced Polymer Processing and Design, where he serves as its director. PolyDynamics Inc.'s software is based on twenty-five years of research under Dr. Vlachopoulos' leadership. His research has been supported by NSERC discovery, strategic project, 87

POLYPHALT INC.

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ANNUAL REVENUE
$9,400,683 (2001)

NUMBER OF EMPLOYEES IN CANADA
15

YEAR INCORPORATED
1992

STOCK MARKET LISTING
Exchange: CDNX
Symbol: PMA

PRINCIPAL MARKETS
International

INDUSTRIAL SECTORS
Infrastructure, Construction, Housing

WEB SITE
www.polyphalt.com

PRODUCTS OR SERVICES

Polyphalt Inc.'s process technology uses virgin and recycled plastics and rubbers to enhance the performance and durability of asphalt. Asphalt modified by Polyphalt's technology can be used for diverse applications, including paving materials, commercial and residential roofing products, and industrial coatings and sealants.

Polyphalt's proprietary processes create physical and chemical structures throughout the asphalt that improve both high- and low-temperature performance. The versatility of the technology allows asphalt to be modified to meet precise criteria for specific high-perfomance applications, including extreme climatic and service conditions. Of great significance to industry is the excellent storage stability of Polyphalt-modified asphalt, a feature that addresses major shortcomings associated with many other modified asphalts. The technical advantages of these engineered asphalt materials are complemented by the environmental and economic advantages of being able to incorporate recycled plastics and crumb rubber into the processes.

In 1997, Cheung Kong Infrastructure, a Hong Kong-based company with international interests in materials of all kinds, acquired a controlling interest in Polyphalt Inc.

Polyphalt acquired GH International (GHI) in 2000. GHI manufactures coatings, sealants, caulking materials and wall covering sealants. Its products are used primarily for construction and maintenance of roofs, driveways, decks and walkways, as well as for wallpapers and interior decor.

NSERC RESEARCHERS

The research team that developed Polyphalt Inc.'s core technology was led by Dr. Raymond Woodhams, a Professor Emeritus in the Department of Chemical Engineering and Applied Chemistry at the University of Toronto. NSERC has supported his research since the early 1980s with discovery and strategic project grants, as well as numerous collaborative research and development grants. Dr. Woodhams is now retired. Mr. Zhi Zhong Liang, in collaboration with Dr. Woodhams, conceived the phase stabilization concepts that are the basis of Polyphalt's businesses.

POWERLASERS LTD.

GENERAL MANAGER
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ANNUAL REVENUE
Confidential

NUMBER OF EMPLOYEES IN CANADA
70

YEAR INCORPORATED
1979

STOCK MARKET LISTING
N/A

PRINCIPAL MARKETS
Confidential

INDUSTRIAL SECTORS
Manufacturing, Automotive

WEB SITE
www.powerlasers.com

PRODUCTS OR SERVICES

Automobile manufacturers are continually looking for new and innovative ways to reduce costs and weight. Powerlaser Ltd.'s patented technology for the production of laser-welded blanks allows automakers to design weight reduction and cost savings into new vehicles. Laser-welded blanks consist of two or more pieces of steel of different thickness or composition, joined together by a laser welding process.

Powerlasers produces a wide variety of components for customers such as General Motors and DaimlerChrysler and is regarded as one of the top laser welding suppliers of automotive parts in the world today. The company employs approximately 190 people at its facilities in Concord and Kitchener, Ontario, and Pioneer, Ohio.

Dofasco Inc., headquartered in Hamilton, Ontario, acquired Powerlasers as a 100% subsidiary in May 2000 as part of its "Solution In Steel" strategy. Dofasco trades on the Toronto Stock Exchange under the "DFS" symbol.

NSERC RESEARCHERS

Powerlasers Ltd. was established by Dr. Walt Duley, a University of Waterloo professor of physics specializing in optics and astronomy. Dr. Duley has received NSERC discovery, collaborative project, and research tools and instruments grants.

Prescient NeuroPharma Inc.

President and Chief Executive Officer
Anthony J. Giovinazzo

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Email
N/A

Annual Revenue
Confidential

Number of Employees in Canada
17

Year Incorporated
1992

Stock Market Listing
Exchange: CDNX
Symbol: PRE

Principal Markets
International

Industrial Sectors
Pharmaceuticals & Medicine

Web Site
www.prescientneuropharma.com

Products or Services
Prescient NeuroPharma Inc., formerly known as IGT Pharma Inc., is a Canadian biotechnology and drug discovery company dedicated to the rescue and protection of brain cells. Prescient has two lead neuroprotection research programs. The first concerns a proprietary metabotropic glutamate receptor (mGluR) library of small molecules that act on specific mGluRs in the brain, thereby modulating glutamate signals that lead to functional imbalance and nerve cell death. The second program involves the discovery of naturally occurring neurotrophic proteins, which sustain the life of brain cells and slow disease progression.

NSERC Researchers
Prescient NeuroPharma Inc.'s new cancer drug, Anhydrovinblastine, is based on research conducted by Dr. James Kutney of the University of British Columbia's chemistry department. NSERC has supported his work through discovery, strategic project, research tools and instruments, and industrially oriented research grants. Dr. Kutney is a member of Prescient's Oncology Advisory Committee.

Pressure Pipe Inspection Company Ltd.

President
Dr. Brian Mergelas

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Annual Revenue
$4,060,636 (2000)

Number of Employees in Canada
70

Year Incorporated
1997

Stock Market Listing
N/A

Principal Markets
International

Industrial Sectors
Water Supply Infrastructure, Testing

Web Site
www.ppic.on.ca

Products or Services

The Pressure Pipe Inspection Company Ltd. (PPIC) provides non-destructive inspection services and condition assessment of large diameter concrete water supply pipes.

PPIC has inspected over 1,400 km of water pipeline. The company's inspections often result in rehabilitation rather than unnecessary replacement of undamaged pipes, saving water authorities and power plants many millions of dollars.

PPIC uses a unique patented remote field eddy technique to measure one or more broken wires. This technique transmits electromagnetic signals through the pipes to the steel pre-stressing wires embedded in the concrete. This allows PPIC analysts to monitor distortions and to locate any broken wires that may cause pipes to rupture.

NSERC Researchers

The Pressure Pipe Inspection Company Ltd. (PPIC) was founded by Professor David Atherton and Dr. Brian Mergelas. Dr. Mergelas, president of PPIC and a former student of Professor Atherton, received an NSERC Industrial Research Fellowship. Prof. Atherton is a professor of engineering physics and the head of the Applied Magnetics Group at Queen's University. He led the development of the inspection technology used by PPIC. His research has been supported by NSERC discovery, cooperative activities, collaborative research and development, and strategic project grants.

Process Simulations Ltd.

President
Dr. Martha Salcudean

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Annual Revenue
$550,000

Number of Employees in Canada
5

Year Incorporated
1994

Stock Market Listing
N/A

Principal Markets
North America, Europe

Industrial Sectors
Manufacturing

Web Site
www.psl.bc.ca

Products or Services

Improved efficiency in the pulp and paper industry is the goal of Process Simulations Ltd. (PSL), a start-up company of the University of British Columbia. The company's initial focus has been "black liquor" recovery boilers, a major bottleneck in the Kraft paper industry. These boilers burn the organic black liquor by-product of the pulp to generate energy and to recycle the inorganic component into the pulping cycle. Even small improvements in efficiency result in increased production at the mill.

Since its formation, PSL has expanded its modeling to include power boilers and biomass fuel boilers. PSL is also modelling other equipment, e.g., kilns, headboxes, and digesters. The company is currently developing a simulator that allows for the visualization, training and optimization of processes.

NSERC has played a key role with PSL in enabling research to be conducted at the University of British Columbia. In turn, the technology that results from this effort quickly moves into industry, enabling PSL to tackle new and novel applications.

NSERC Researchers

Process Simulations Ltd. was founded by Martha Salcudean and Ian Gartshore of the University of British Columbia. Their continuing research on Kraft pulp processes is supported by NSERC discovery grants.

Pyrovac International Inc.

President
Dr. Christian Roy

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Annual Revenue
Confidential

Number of Employees in Canada
26

Year Incorporated
1990

Stock Market Listing
N/A

Principal Markets
International

Industrial Sectors
Environmental Technology,
Fine Chemistry

Web Site
www.pyrovac.com

Products or Services

Pyrovac International Inc. offers an entirely new recycling solution to waste management by considering waste as a resource. Pyrocycling™ is a technology based on vacuum pyrolysis, which enhances wastes such as worn tires and biomass residue, and permits decontamination of even the most polluted ground. The process transforms the bulk of organic matter in pyrolytic oils, the by-products being carbon-base and pyrolytic gas residues.

Depending on the application, it is possible to extract from the oils some phenolic and pharmaceutical compounds, fragrances, and natural solvents such as dl-limonene. Oils and pyrolytic coal can be used as fuel. The solid residues derived from worn tires can be used as carbon black, while the biomass pyrolysis produces charcoal used in the iron industry or can be transformed into activated carbon.

Pyrovac International Inc. is jointly owned by the Groupe Pyrovac inc., SGF Rexfor, and the limited partnership company Sodexfor. SGF Rexfor is a Quebec government corporation centred on the sustainable development of the forestry sector in Quebec. Sodexfor is an investment fund that develops major projects in the forestry sector in the Saguenay–Lac-Saint-Jean region of Quebec.

NSERC Researchers

Groupe Pyrovac and its subsidiary and affiliated companies were founded by Dr. Christian Roy in order to market the research undertaken by his group at Université Laval, where he is a chemical engineering professor. In 1994, NSERC awarded him an E.W.R. Steacie Memorial Fellowship. Dr. Roy's research in vacuum pyrolysis is supported by NSERC strategic project, discovery, and research tools and instruments grants.

QLT Inc.

President
Paul J. Hastings

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Vancouver, British Columbia
V5T 4T5

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(604) 707-7001

Email
ir@qltinc.com

Annual Revenue
$130,000,000

Number of Employees in Canada
380

Year Incorporated
1981

Stock Market Listing
Exchange: Nasdaq
Symbol: QLTI

Exchange: TSX
Symbol: QLT

Principal Markets
North America, Europe

Industrial Sectors
Pharmaceuticals

Web Site
www.qltinc.com

Products or Services
QLT Inc. is a world leader in photodynamic therapy, a field of medicine that uses light-activated drugs in the treatment of disease. QLT's innovative science has its roots in research done at the University of British Columbia and has led to the development and commercialization of breakthrough treatments in ophthalmology and oncology. In addition to assessing the potential of photodynamic therapy for the treatment of other diseases, the company is also investigating other innovative compounds beyond photodynamic therapy, primarily in oncology and autoimmune disorders.

To date, QLT has two commercial products: Photofrin, which was sold to Axcan Pharma in 2000, and Visudyne, a drug designed and discovered by QLT scientists for use in age-related blindness. Visudyne received its first approval from a national regulatory agency in December 1999, just five years after clinical trials began. Visudyne therapy has so far been approved in 62 countries worldwide.

NSERC Researchers
QLT Inc.'s focus in photodynamic therapy is founded on the research of professor emeritus Julia Levy and chemistry professor David Dolphin, both from the University of British Columbia. Drs. Dolphin and Levy first obtained an NSERC strategic project grant in the mid-1980s to explore the commercial potential of the drug Benzoporphyrin Derivative (BPD). Dr. Julia Levy has served in several key senior posts at QLT, including Chief Scientific Officer and Vice President as well as President and CEO from 1995 to February 2002. Under her leadership, QLT recorded the strongest period of growth in its history. Dr. Levy now serves as Executive Chairman of QLT's Scientific Advisory Board. Dr. Levy has received strategic project, discovery and collaborative research and development grants from NSERC. Dr. David Dolphin's research has been supported by NSERC strategic project, discovery, collaborative research and development, and research tools and instruments grants since 1978.

Quantic EMC Inc.

President
Dr. Alvin Wexler

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Winnipeg, Manitoba
R3B 0X1

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(204) 957-1158

Email
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Annual Revenue
Confidential

Number of Employees in Canada
Confidential

Year Incorporated
1983

Stock Market Listing
N/A

Principal Markets
International

Industrial Sectors
Electronic Design Automation

Web Site
www.quantic-emc.com

Products or Services

Manitoba's Quantic EMC Inc. has an impressive client list, including Siemens, Boeing, Cisco, and Apple Microsystems. These companies come to Quantic for its simulation software for high-speed electronics systems. The software simulates system conditions under high-speed switching conditions. It predicts faults within the systems that need to be diagnosed and corrected when designing digital circuits. It also identifies electromagnetic emissions from equipment, i.e., the reason that passengers are asked to turn off their laptops upon aircraft takeoff and landing. The bottom line? A substantial reduction in the time and money spent on prototypes and a reduction of time to market, particularly in light of international emission standards. Quantic has launched a new simulation product, Omega PLUS, that runs on PCs as well as UNIX machines.

NSERC Researchers

The founder and president of Quantic EMC Inc. is Dr. Alvin Wexler, an electrical engineering professor and Professor Emeritus at the University of Manitoba. Dr. Wexler has received significant funding through NSERC discovery and research tools and instruments grants. His current research on impedance computer tomography has potential applications ranging from locating buried land mines, to monitoring the containment of nuclear wastes, to identifying subterranean contamination, to imaging within the human body.

Quantiscript Inc.

President
Dr. Jacques Beauvais

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Computer Engineering
Université de Sherbrooke
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J1K 2R1

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Email
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Annual Revenue
Confidential

Number of Employees in Canada
6

Year Incorporated
1999

Stock Market Listing
N/A

Principal Markets
International

Industrial Sectors
Semiconductors

Web Site
www.quantiscript.com

Products or Services
Semiconductor manufacturers have long measured their components in nanometers (a nanometer is one millionth of a millimeter). Their goal, set by The International Technology Roadmap for Semiconductors, is to produce next-generation semiconductors under 100 nanometers, which will increase their performance and reduce manufacturing costs. However, the semiconductor industry's current technology cannot meet this goal to miniaturize semiconductors.

Quantiscript Inc., the first nanotechnology company launched in Quebec, aims to solve this problem with nanolithography. This process imprints patterns directly onto an integrated circuit, made out of semiconductor material (namely silicon and germanium), and improves patterning of lithography masks, with the help of an electron beam.

NSERC Researchers
Quantiscript Inc. was created to commercialize the nanolithography technology developed by Dr. Jacques Beauvais and his students, Drs. Dominique Drouin and Eric Lavallée. Dr. Beauvais, Quantiscript's president, is a professor in the Department of Electrical and Computer Engineering and the director of the Microelectronics Group at the Université de Sherbrooke. Dr. Beauvais's work in nanolithography was supported by an NSERC discovery grant and by Micronet, a Network of Centres of Excellence. Quantiscript's chief of operations, Dominique Drouin, is an associate professor in the Department of Electrical and Computer Engineering at the Université de Sherbrooke. Dr. Drouin, a microscopy expert, received an NSERC university undergraduate student research award.

Quantum Technology Corp.

Chief Executive Officer
Dr. Calvin Winter

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Email
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Annual Revenue
$1,000,000

Number of Employees in Canada
6

Year Incorporated
1981

Stock Market Listing
N/A

Principal Markets
International

Industrial Sectors
Scientific Equipment and Instrumentation

Web Site
www.quantum-technology.com

Products or Services

This privately held British Columbia company specializes in high-technology refrigeration equipment that produces temperatures ranging from -196°C (nitrogen and air liquefiers) to -269°C and below (helium liquefiers). These products are sold worldwide with excellent market acceptance in Canada, Europe, and the Middle East. The low-temperature scientific equipment is used for recycling helium and maintaining superconducting magnets at operating temperature, in medical magnetic resonance imaging systems and many other research applications.

NSERC Researchers

Quantum Technology Corporation was co-founded by Simon Fraser University physics graduate students Calvin Winter and Ken Myrtle. They worked together with the guidance and expert assistance of professor Suso Gygax. Dr. Gygax has received NSERC discovery, and research tools and instruments grants for work on low-temperature, solid-state physics and superconductivity. The initial proof of concept research on cryogenic refrigeration systems was supported by NSERC. Calvin Winter received NSERC postgraduate scholarships during his graduate studies at Princeton, McGill and Simon Fraser universities. Dr. Winter also received an NSERC postdoctoral fellowship to work with professor Gygax.

Qubit Systems Inc.

President
Robin Wynne-Edwards

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Kingston, Ontario
K7M 4Y4

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(613) 384-9118

Email
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Annual Revenue
Confidential

Number of Employees in Canada
10

Year Incorporated
1995

Stock Market Listing
N/A

Principal Markets
Confidential

Industrial Sectors
Education, Scientific Equipment

Web Site
www.qubitsystems.com

Products or Services

Recent advances in sensor technology have made it possible to monitor atmospheric gases and biological processes with an accuracy and affordability that were inconceivable only a few years ago. Qubit Systems Inc. has incorporated these technologies into a range of high-quality, integrated products for teaching and research in the biological sciences.

The educational arm of Qubit Systems concentrates on giving undergraduate students much needed hands-on experience in collecting and manipulating experimental data. A Qubit Systems educational laboratory package includes everything the students need to conduct experiments to illustrate important biological principles, or for self-directed original research. These packages are currently in use in over 300 educational institutions in more than 30 countries.

The research arm of Qubit Systems concentrates on pushing the limits of gas detection technology. Current research products include a differential oxygen analyzer that offers five times the sensitivity of competing analyzers, a convenient gas analysis bench for CO_2 and O_2 analysis, and a family of gas sensors for military and civil defense use.

NSERC Researchers

Qubit Systems Inc. was founded by Dr. David B. Layzell, a professor of biology at Queen's University. Dr. Layzell is a plant physiologist specializing in nitrogen fixation. A former Steacie Fellow, Dr. Layzell has received support through NSERC discovery, and research tools and instruments grants.

Raylo Chemicals Inc.

President
Matthew Colomb

Address
8045 Argyll Road
Edmonton, Alberta
T6C 4A9

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(780) 468-6060

Fax
(780) 468-4784

Email
N/A

Annual Revenue
$25-50 million

Number of Employees in Canada
190

Year Incorporated
1966

Stock Market Listing
N/A

Principal Markets
U.S., Western Europe

Industrial Sectors
Pharmaceuticals

Web Site
N/A

Products or Services
Raylo Chemicals Inc. is a custom chemical manufacturer serving the pharmaceutical and bio-pharmaceutical industries. The company provides research and chemical process development for the production of bulk pharmaceutical compounds and advanced intermediates used in toxicology studies, clinical trials, and commercial sales. Raylo became part of Laporte PLC, a British multinational, in 1988, which then merged with Degussa, a German multinational in 2001.

NSERC Researchers
Raylo Chemicals Inc. evolved from R & L Molecular Research Ltd., founded by Ray and Leo Lemieux. The late Dr. Ray Lemieux was a professor in the Department of Chemistry at the University of Alberta and was one of NSERC's top-funded researchers. His blood-antigen work inspired worldwide investigations in immunology, cancer, and AIDS research. In 1990, he received the King Faisal International Prize in Chemistry in recognition of his efforts to apply findings in carbohydrate chemistry. In 1992, NSERC awarded Dr. Lemieux the Canada Gold Medal for Science and Engineering, acknowledging his outstanding contributions to Canadian research.

SatCon Power Systems Canada Ltd.

General Manager
Chris Hunter

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Burlington, Ontario
L7N 3P3

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Email
N/A

Annual Revenue
$18,900,000

Number of Employees in Canada
65

Year Incorporated
1980

Stock Market Listing
Exchange: Nasdaq
Symbol: SATC

Principal Markets
North America, Europe, Asia Pacific

Industrial Sectors
Steel, Metal Refining, Utilities, Power Generation, Alternative Energy, Chemical

Web Site
www.satcon.com

Products or Services

SatCon Power Systems Canada Ltd., formerly known as Inverpower Controls Ltd., is a high-technology company that designs, manufactures, and services power electronics and control systems. SatCon's primary activity is manufacturing products for large industrial power users and electrical utilities, as well as for a number of emerging niche markets. SatCon's products enable end-users to optimize performance in a broad range of industrial applications and enhance quality and productivity in the end-users process.

SatCon has a first-rate team of electronic and software engineers, and has developed and proven several important new products that make it the technology leader in its target markets. SatCon's Power Conditioning Systems use advanced digital controls designed for alternative energy applications, including fuel cells, photovoltaic arrays (solar), microturbines, and wind turbines. The Power Conditioning Systems are also designed to combine alternative energy generators with advanced energy storage devices such as advanced batteries and flywheels to provide an uninterruptible power supply (UPS).

NSERC Researchers

Dr. Shashi B. Dewan, the founder of Inverpower Controls Ltd., is an internationally recognized authority in the field of power electronic technology. Dr. Dewan is no longer involved with Inverpower (now SatCon Power Systems Canada Ltd.), but continues his research program with the Power Devices and Systems Research Group in the Department of Electrical and Computer Engineering at the University of Toronto. Dr. Dewan is researching power electronics and controls, concentrating on the problem of eliminating harmonics that distort signals within the power conversion process. His research has been consistently supported by NSERC discovery, collaborative research and development, strategic project, and research tools and instruments grants.

SATLANTIC INCORPORATED

PRESIDENT AND CHIEF EXECUTIVE OFFICER
William Ricketts

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ANNUAL REVENUE
$2,500,000

NUMBER OF EMPLOYEES IN CANADA
40

YEAR INCORPORATED
1990

STOCK MARKET LISTING
N/A

PRINCIPAL MARKETS
International

INDUSTRIAL SECTORS
Earth Observation, Space, Defense

WEB SITE
www.satlantic.com

PRODUCTS OR SERVICES

Satlantic Incorporated is a leading developer of oceanographic sensors. The company provides the most advanced precision sensing and information solutions for the marine industry. Its expert support staff assists clients in all aspects of instrument use.

Satlantic sensor and surveillance systems support a range of activities, including calibration of satellite sensors in orbit; evaluation of ocean battle space for defence needs; monitoring of pollution and water quality; and remote monitoring of harsh and hostile environments.

Common to all of these activities is the development and deployment of precise sensing solutions; systems to acquire the data from remote sensors; complex processing technology to collate the raw data stream from single or networked sensors to extract the necessary information; and dissemination tools to deliver customized information for particular applications. Complementing these systems are the tools necessary to use the derived information to rapidly assess the current and future situation, enabling real-time operational decision-making.

Satlantic has developed an enviable global reputation for innovation and excellence in these areas. The company continues to aggressively explore new technologies and applications where its expertise can provide new capability and increased value to its customers.

NSERC RESEARCHERS

Dr. Marlon Lewis created Satlantic Incorporated in 1990 with a line of advanced optical systems designed and prototyped at Dalhousie University. Dr. Lewis serves as the company's Chairman of the Board. He is also a professor of oceanography at Dalhousie University where he is examining optical variability in the ocean. NSERC supports his research through its collaborative project, strategic project, and discovery grants programs.

SED Systems — A Division of Calian Ltd.

President
Ray Basler

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Email
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Annual Revenue
$40,000,000

Number of Employees in Canada
250

Year Incorporated
1972

Stock Market Listing
N/A

Principal Markets
International

Industrial Sectors
Communications

Web Site
www.sedsystems.com

Products or Services
SED Systems provides systems and services to the international communications industry. SED is a turnkey supplier, working with customers to tailor systems to their operational requirements. The company designs, builds, installs and tests the system, assists in developing operating scenarios and procedures, provides expert support to system commissioning and service rollout, and offers long-term maintenance support. Products include satellite gateways, feeder link stations, telemetry, tracking and command stations, network management systems, in-orbit test systems, carrier monitoring systems, and communications equipment. SED also provides low-volume, high-quality custom manufacturing services to telecommunication, defence and aviation markets in North America.

SED now employs 250 satellite industry professionals and serves satellite manufacturers, operators and service providers around the world. In 1990, SED became a wholly owned subsidiary of CALIAN Technology Ltd., and in 2000 became a division of CALIAN Ltd.

NSERC Researchers
SED Systems began in 1965 as the Space Engineering Division of the University of Saskatchewan's Department of Upper Atmospheric Physics. Following the team's pioneering research, headed by Dr. Balfour Currie, SED designed and constructed rocket instrumentation for upper atmospheric studies. Dr. Alex Kavadas, also an active researcher in the division, led SED to incorporation in 1972. In the 1960s, Drs. Kavadas and Currie received NRC funding for their space-related research.

SemBioSys Genetics Inc.

Chief Executive Officer
Andrew Baum

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Annual Revenue
Confidential

Number of Employees in Canada
54

Year Incorporated
1994

Stock Market Listing
N/A

Principal Markets
International

Industrial Sectors
Pharmaceuticals and Medicine; Agriculture

Web Site
www.sembiosys.ca

Products or Services
SemBioSys Genetics Inc. is a Canadian-based biotechnology company focused on the production of recombinant proteins in oilseed plants using its proprietary oleosin-based technology platform, the Stratosome™ Biologics System. The company's mission is to use this platform to enable the production of proteins, which otherwise would not be commercially viable due to cost or volume constraints, for its biotechnology, pharmaceutical, personal care and other partners. SemBioSys technology is unique because it is the only transgenic system (plant or animal) that addresses protein purification as well as bulk protein production costs, allowing the production of recombinant proteins at significantly lower costs than other production systems currently available or under development. The platform also enables proteins to be easily formulated into orally or topically delivered products (DermaSphere™ Ingredient System).

NSERC Researchers
SemBioSys Genetics Inc. was formed by Dr. Maurice Moloney, the company's chief scientific officer, to commercialize his research in the Department of Biological Sciences at the University of Calgary. Specializing in plant physiology and cell biology, Dr. Moloney holds an industrial research chair in plant biotechnology. His research has been supported by discovery, strategic project, collaborative research and development, and research tools and intruments grants.

Shire BioChem Inc. (a subsidiary of Shire Pharmaceuticals Group plc)

President and Chief Executive Officer
Joseph Rus

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Laval, Quebec
H7V 4A7

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(450) 978-7800

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Email
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Annual Revenue
US$877,000,000 (Shire Pharmaceuticals globally as of December 31, 2001)

Number of Employees in Canada
500+

Year Incorporated
2001

Stock Market Listing
N/A

Principal Markets
International

Industrial Sectors
Pharmaceuticals

Web Site
www.shire.com

Products or Services

Shire BioChem Inc., created following the merger of BioChem Pharma and Shire in May 2001, is part of one of the world's leading and fastest growing specialty pharmaceutical companies — the Shire Pharmaceuticals Group plc.

With operations in key markets worldwide, Shire has a strategic focus on three therapeutic areas — central nervous system disorders, oncology and anti-infectives. Shire also has leading expertise in advanced drug delivery and biologics. The Shire Pharmaceuticals Group has a global sales and marketing infrastructure with a broad portfolio of products and its own direct marketing capability in the U.S., Canada, the UK, the Republic of Ireland, France, Germany, Italy and Spain, with plans to add Japan. Its specialty designation is derived from the fact that the company's principal products are prescribed by specialists rather than by primary care physicians.

Shire BioChem's flagship discovery lamivudine — commercialized as 3TC for treatment of AIDS — is now the most widely prescribed HIV/AIDS treatment in the world. Two years after the discovery of lamivudine in 1988, Shire signed a collaborative agreement with GlaxoSmithKline for the development and commercialization of the drug worldwide, except in Canada, where the parties formed a partnership. Lamivudine also has proven effective in treating chronic hepatitis B, and is being introduced to markets around the globe under the trademarks Heptovir in Canada, Epivir-HBV in the U.S., and Zeffix.

Shire BioChem has a global mandate to apply the most innovative science and technologies to discover, develop, produce, and market novel human vaccines and biologics for the treatment of infectious diseases.

NSERC Researchers

BioChem Pharma Inc., now known as Shire BioChem Inc., was founded in 1986 by Dr. Bernard Belleau of McGill University and by two members of the Institut Armand-Frappier: Dr. Francesco Bellini and Dr. Gervais Dionne. Dr. Belleau was influential in the establishment of the pharmaceutical industry in Canada. His research was supported by a number of NSERC discovery, and research tools and instruments grants. He also held an industrial chair in pharmaceutical chemistry, co-sponsored by NSERC and the Institut Armand-Frappier, from 1986 until his death in 1989. Dr. Belleau discovered lamivudine, commercialized under the trade name 3TC and known as the cornerstone of HIV/AIDS combination therapy.

Sigma Analysis and Management Ltd.

Chief Executive Officer
Dr. Luis Seco

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Annual Revenue
Confidential

Number of Employees in Canada
7

Year Incorporated
1999

Stock Market Listing
N/A

Principal Markets
North America

Industrial Sectors
Financial

Web Site
www.sigmanalysis.com

Products or Services

Sigma Analysis and Management Ltd. is an innovative alternative investment management firm that combines a unique blend of math and market analysis. Their cutting-edge portfolio theory and financial mathematics provide investment solutions with consistent returns in all possible market situations. Sigma distinguishes itself by teaching clients the science behind investment decisions.

Sigma stems from a partnership called Risklab — a joint venture between the University of Toronto's Fields Institute for Research in Mathematical Sciences and Algorithmics Inc. The commercial success of this research results from an ability to group hedge funds — high-return, high-risk assets — into low-risk portfolios. Using mathematical models, funds are pitted against one another in a manner that offsets financial volatility. The end result is a group of 15 to 30 hedge funds worth approximately $50 million that generate income despite changes in the economy.

Financial stability attracts medium- and large-sized companies to Sigma's reliable quantitative investment techniques. One of Canada's largest pension plans, a chemical company, and private investors all benefit from Sigma's services.

In addition to acquiring a solid client roster from the financial sector, Sigma has tailored its services to the power industry. The company assists energy consumers in electricity risk assessment and management.

NSERC Researchers

Dr. Luis Seco, a leading expert in financial risk management, is the president and CEO of Sigma Analysis & Management Ltd. He is also a professor of mathematics and director of Risklab at the University of Toronto. Dr. Seco has been instrumental in developing an international network of Risklabs with sites in the United States, England, Spain, Germany, and Cyprus. Dr. Seco has been supported by NSERC discovery, and research tools and instruments grants.

SIMULENT INC.

CHAIRMAN
Dr. Javad Mostaghimi

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ANNUAL REVENUE
Confidential

NUMBER OF EMPLOYEES IN CANADA
5

YEAR INCORPORATED
2000

STOCK MARKET LISTING
N/A

PRINCIPAL MARKETS
North America

INDUSTRIAL SECTORS
Engineering Software

WEB SITE
www.simulent.com

PRODUCTS OR SERVICES

Simulent Inc. provides engineering solutions for fluid and thermal systems. The company's Computational Fluid Dynamics (CFD) software provides 3D simulations of a wide variety of fluid flows, heat transfer and phase changes. Simulent's CFD products are capable of simulating three-dimensional free surface flows with large surface deformation, surface merging, and surface breaking.

Simulent's CFD software can be applied to sprays and multiphase flows, materials processing, combustion and pollution assessments, thermal plasma technologies, ink jet printing, and environmental technologies.

NSERC RESEARCHERS

Dr. Javad Mostaghimi is a professor of mechanical and industrial engineering at the University of Toronto and director of the Centre for Advanced Coating Technologies at the same university. He is also the vice-dean of research and graduate studies and holds a Canada Research Chair in Advanced Coatings. Dr. Mostaghimi is a leader in the fields of thermal spray and plasma processing. NSERC discovery, collaborative research and development, and research tools and instruments grants helped develop the CFD software commercialized by Simulent Inc.

Stantec Inc.

Chief Executive Officer
Tony Franceschini

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T5K 2L6

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Email
corp@stantec.com

Annual Revenue
$356,600,000

Number of Employees in Canada
1,600

Year Incorporated
1954

Stock Market Listing
Exchange: TSX
Symbol: STN

Principal Markets
North America and International

Industrial Sectors
Infrastructure, Transportation

Web Site
www.stantec.com

Products or Services

Stantec Inc. is a knowledge company that provides solutions to infrastructure and facilities projects through value-added professional services and technologies.

One of Stantec's areas of expertise is in infrastructure management systems, where the company has a significant level of proprietary technology. This proprietary technology had its genesis some twenty years ago in the research carried out by some of the company's principals and employees who specialized in pavement engineering, the road strength evaluation, driveability, and surface condition.

The pavement analysis system predicts which sections of road are most likely to deteriorate so that cost-effective maintenance and repairs can be targeted to fix those sections before serious problems arise and more costly repairs are needed. This management system is supported and enhanced by a specialist pavement research group that is involved in state-of-the-art research to better understand and improve pavements.

Recognizing a growing need for complete infrastructure management services for potable water, sanitary, storm water, bridges, roads, right of way features, natural gas, etc., Stantec subsequently added other modules to complement the original pavement management system.

NSERC Researchers

Stantec Inc.'s original pavement management application is a spin-off of research done at the University of Waterloo. Stantec's vice-president responsible for infrastructure management systems, Dr. Matt Karan, and vice-president Dr. Frank Meyer did their doctoral theses under Dr. Ralph Haas, a professor of civil engineering at the University of Waterloo. Dr. Haas is an expert in transportation engineering and planning, and has received NSERC discovery and strategic project grants. University of Waterloo graduates make up a quarter of the staff working on Stantec's infrastructure management applications.

Sybase Waterloo

Senior Vice-President and General Manager
Terry Stepien

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investor_relations@sybase.com

Annual Revenue
Confidential

Number of Employees in Canada
115

Year Incorporated
1981

Stock Market Listing
N/A

Principal Markets
International

Industrial Sectors
Information Technology

Web Site
www.sybase.com

Products or Services

Sybase Waterloo was formerly WATCOM International Corporation, a start-up from the University of Waterloo. In 1994, WATCOM merged with Powersoft Corp, which subsequently combined in 1995 with California-based Sybase, Inc., one of the largest global independent software companies. Employees from Sybase's two subsidiaries, iAnywhere Solutions Inc. and Financial Fusions Inc., share the Sybase Waterloo facility, which employs 270 people and continues to be a hotbed of technological innovation.

Sybase is a leading provider of enterprise products and services. It enables companies to build robust e-Business infrastructures for integrating, managing, personalizing, and delivering information anywhere it is needed. The e-Business trend is changing the face of today's enterprise and the face of technology. The e-Business Division of Sybase is defining the new breed of modular e-Business platforms by building on the company's strong history in open development tools and Enterprise Application Integration (EAI) and leveraging its early lead in the developing Enterprise Portal Market.

NSERC Researchers

Members of the University of Waterloo's Computer Systems Group, headed by Dr. Wes Graham, established WATCOM, the predecessor of Sybase Waterloo. The Group's expertise enabled the WATCOM team to produce innovative software for the education market. Many faculty of the Computer Systems Group, including Dr. Graham and Dr. Donald Cowan, now a Professor Emeritus in the Department of Computer Science, received NSERC support through discovery grants.

Terry Stepien, the Senior Vice-President and General Manager of Sybase Waterloo, was also a member of the University of Waterloo's Computer Systems Group, where he held an adjunct faculty appointment in the Department of Computer Science.

SynGene Biotek Inc.

President and Chief Scientific Officer
Dr. Santosh Misra

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Victoria, British Columbia
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Email
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Annual Revenue
Confidential

Number of Employees in Canada
8

Year Incorporated
1996

Stock Market Listing
N/A

Principal Markets
International

Industrial Sectors
Biotechnology

Web Site
www.syngenebiotek.com

Products or Services

SynGene Biotek Inc. is an international leader in the creation of broad-spectrum disease-resistant plants. The company's pioneering biotechnology is environmentally friendly and helps produce safer, more sustainable foods.

SynGene's work is based on the development of proprietary protectin technology. Recently discovered, protectins are a class of powerful and natural antimicrobial agents occurring widely in nature as part of what is called "innate immunity." SynGene has developed methods for structurally altering and expressing selected protectins in plants in order to produce a variety of disease-resistant prototypes. This resilient bio-genetic innovation can be adopted into floricultural, horticultural, animal-feed, and human antibiotics. Applications for this technology include golf courses free of pesticides, safer toxin-reduced food, and molecular farming for disease prevention.

SynGene's plant technology was perfected in potatoes and is transferable to other produce, such as wheat, corn, and soya beans. The company's ability to improve the quantity and quality of crops without the use of pesticides will benefit global health.

NSERC Researchers

Dr. Santosh Misra is an expert in genetic engineering and plant biochemistry. She is a professor in the Department of Biochemistry and Microbiology at the University of Victoria. Her current research involves the molecular genetics of conifers and genetic engineering of crops. Dr. Misra is a member of the Canadian Bacterial Diseases Network, a Network of Centres of Excellence. Dr. Misra has received NSERC strategic project, discovery, and research tools and instruments grants.

Tekna Systèmes Plasma Inc.

Chief Executive Officer
Dr. Maher Boulos

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Annual Revenue
Confidential

Number of Employees in Canada
28

Year Incorporated
1990

Stock Market Listing
N/A

Principal Markets
International

Industrial Sectors
Plasma Technologies, Manufacturing Equipment

Web Site
www.teknaplasma.com

Products or Services
Tekna Systèmes Plasma Inc. manufactures customized thermal plasma turn-key systems for industrial applications. The company was founded to commercialize the induction plasma torch design that was developed and patented at the Centre de Recherche en Technologies des Plasmas (CRTP) at the Université de Sherbrooke. Tekna Systèmes Plasma specializes in induction plasma systems, but can also design and manufacture systems using other plasma technology, such as DC plasma and transferred arc plasma. These turn-key systems can be used in industrial applications, such as powder densification and spheroidization, nanometric powder synthesis, and in the preparation of metallic and ceramic coatings. Tekna Systèmes Plasma is recognized worldwide for its ability to manufacture turn-key systems that are customized and optimized for the client's needs and applications. These systems are reliable and highly automated to ensure the continuous production of powder and coatings with good quality control and reproducibility. Tekna Systèmes Plasma also provides production infrastructure that allows its clients to test and optimize operating conditions on an industrial scale.

NSERC Researchers
Dr. Maher Boulos founded Tekna Systèmes Plasma Inc. to commercialize research results obtained at the Centre de Recherche en Technologies des Plasmas (CRTP) in the Department of Chemical Engineering at the Université de Sherbrooke. Dr. Boulos continues his research in thermal plasma technology, supported by an NSERC discovery grant and by Le Fonds québécois de la recherche sur la nature et les technologies, as well as contracts from various industries in Canada, the United States and Europe.

TelePhotogenics Inc.

Director, Research
Dr. Raymond R.S. Howard

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Edmonton, Alberta
T5K 3J1

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(780) 414-0628

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sales@telephotogenetics.com

Annual Revenue
$363,000

Number of Employees in Canada
10

Year Incorporated
1996

Stock Market Listing
N/A

Principal Markets
North America, European Union, Asia Pacific

Industrial Sectors
3D Digital Imaging, Software

Web Site
www.telephotogenics.com

Products or Services
TelePhotogenics Inc. specializes in super high-resolution 360° and 3D digital imaging hardware and software. TelePhotogenics has recently launched the Zoomage3D digital scanner that can generate super high-resolution (SHR) texture and wire-frames for 3D objects. The 3D products are projected to have a large emerging market in the medical field, computer games and graphics because of their high quality and modest cost.

In 2001, TelePhotogenics released Zoomage360, a digital camera capable of capturing 24-bit colour images with up to 216 megapixels covering a 360° view. Combined with TelePhotogenics' proprietary Zoomage™ software, Zoomage360 provides an effective means for super high-resolution content creation and visualization at an affordable price.

TelePhotogenics' collaborators include Keeweetinok Lakes Regional Health Authority and Silicon Graphic Inc. Different application demos can be found at www.zoomage3d.com and www.telephotogenics.com.

NSERC Researchers
Dr. Anup Basu, a professor in the Department of Computing Science at the University of Alberta, participated in the formation of TelePhotogenics Inc. Dr. Basu is currently involved in several collaborative R&D initiatives ranging from museum archiving to 3D medical diagnostics. His research has been supported by NSERC discovery, research tools and instruments, and collaborative research and development grants. Dr. Basu introduced several novel concepts and implementations in the computer vision and graphics area, including high-resolution teleconferencing and on-line visualization systems, panoramic stereo with a single camera, active camera calibration without point correspondence, and seamless integration of three Charge-Coupled Devices for 360° and 3D imaging.

TGN Biotech Inc.

President
Dr. François Pothier

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Annual Revenue
Confidential

Number of Employees in Canada
18

Year Incorporated
2000

Stock Market Listing
N/A

Principal Markets
International

Industrial Sectors
Pharmaceutical

Web Site
www.tgnbiotech.com

Products or Services
TGN Biotech Inc., a biotechnology company, uses transgenic technologies to prepare proteins *in vivo*, also known as recombinant proteins. The proteins produce complex pharmaceutical products, for which there exists a market estimated at over $22 billion annually.

TGN Biotech's patented transgenic technology, Semenesis™ produces recombinant proteins in the seminal glands of pigs. The technology allows for the introduction of any gene to fight diseases, such as hemophilia, genetic lung diseases, and cystic fibrosis. The Semenesis™ technology can also introduce gene coding for proteins, which can act as "red blood cell boosters" to help patients recover from chemotherapy. The Semenesis™ technology can also be used for the production of recombinant biological products for veterinary uses.

The Semenesis™ technology has many advantages that distinguish it from other systems of recombinant protein production. For instance, the physiology and metabolism of pigs are quite similar to those of humans, which results in proteins of similar activity; there is also minimal risk of pathogenic agent transmission between pigs and humans.

TGN Biotech received its first litter of transgenic piglets in time for Christmas 2001. The company is currently producing three different generic versions of drugs already on the market.

NSERC Researchers
TGN Biotech Inc. was founded by Dr. François Pothier, the company's president, and Dr. Marc-André Sirard, vice-president of research and development, to commercialize the Semenesis™ technology developed at Université Laval.
Dr. Pothier, a professor in the Department of Animal Sciences at Université Laval, received NSERC discovery, research tools and instruments, and collaborative research and development grants that helped him form the basis of the Semenesis™ technology, which lead to the formation of TGN Biotech. Dr. Sirard is a professor in the Department of Animal Sciences at Université Laval.
He is also the founder and the director of the Research Centre in Reproductive Biology at Laval and holds a Canada Research Chair in Animal Genomics.
Dr. Sirard won a 2000 NSERC Synergy Award for Innovation for his collaboration with Semex Alliance and for the development of the most successful system for in vitro production of bovine embryos in the world. NSERC has supported Dr. Sirard's research with strategic project, collaborative health research project, discovery, research tools and instruments, and collaborative research and development grants.

Thermo Dynamics Ltd.

Chief Executive Officer
Dr. Peter Allen

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Annual Revenue
$800,000

Number of Employees in Canada
7

Year Incorporated
1981

Stock Market Listing
N/A

Principal Markets
International

Industrial Sectors
Energy, Environmental Technologies

Web Site
www.thermo-dynamics.com

Products or Services
Thermo Dynamics Ltd. is a leader in solar technology. The company sells solar-powered heaters in North America, Europe, Africa, and New Zealand. The heaters reduce domestic water heating costs by as much as 65 per cent. The system is non-polluting and uses only non-toxic heat transfer solutions in its design. Novel features of the Thermo Dynamics solar water heater include a high-performance natural convection heat exchanger, photovoltaic power pump, and metallurgically bonded aluminum-copper solar absorber fins.

NSERC Researchers
Thermo Dynamic Ltd.'s founder is Dr. Peter Allen, a mechanical engineering professor at Dalhousie University. Dr. Allen has worked in the solar-energy industry for more than 15 years and is a world leader in solar technology. He has received several NSERC discovery grants. His current research is in thermal and hydraulic performance of heat exchangers, and solar thermal energy utilization.

TIR Systems Ltd.

Chief Executive Officer
Leonard Hordyk

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V5K 1H9

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(604) 294-3733

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Annual Revenue
$6,100,000 (2001)

Number of Employees in Canada
39

Year Incorporated
1982

Stock Market Listing
Exchange: CDNX
Symbol: TIY

Principal Markets
North America, Europe, Asia

Industrial Sectors
Commercial Construction, Transportation, Infrastructure

Web Site
www.tirsys.com

Products or Services
TIR Systems Ltd. has recently expanded its focus within the lighting industry, using its world leadership in Light Pipe technology as a starting point for its mission to become a world leader in solid state lighting (SSL), based on light-emitting diodes (LEDs). Light Pipe technology, developed at the University of British Columbia, is an ideal optical system for use in conjunction with new high-brightness LEDs to create energy-efficient, extremely long-lasting lighting systems. SSL systems will be the dominant form of lighting within the next decade. TIR is developing and marketing the core technologies — such as power distribution, optics, and system integration — that will enable SSL to move into the mainstream. Through its Light Pipe business, TIR has established distribution channels that service the architectural, transportation, and corporate identity markets.

Recent projects include the Strawberry Mansion Bridge in Philadelphia, where a SSL lighting system incorporating Light Pipe outlines the bridge with dynamic colour that can be programmed via the Internet. Other similar projects include Boston City Hall Plaza and the Colossus theatre complex in Laval, Quebec. TIR also recently supplied lighting products for the Sepulveda Tunnel in Los Angeles, a high-profile installation located at the Los Angeles International Airport.

NSERC Researchers
The inventor of Light Pipe technology, Lorne Whitehead, is the associate dean of science and a physics professor at the University of British Columbia. Dr. Whitehead received support for the development of the Light Pipe prototype through an NSERC grant. He currently holds an NSERC Industrial Research Chair in Surface Physics co-sponsored by 3M Canada and the University of British Columbia. NSERC supports Dr. Whitehead's research with strategic project, and collaborative research and development grants.

TurboSonic Inc.

Chief Executive Officer
Edward Spink

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Annual Revenue
$21,587,000

Number of Employees in Canada
22

Year Incorporated
1976

Stock Market Listing
Exchange: OTCBB
Symbol: TSTA

Principal Markets
North America

Industrial Sectors
Environment, Manufacturing

Web Site
www.turbosonic.com

Products or Services
TurboSonic Inc. has applied its proprietary technology to a wide variety of air pollution control problems for industries ranging from pulp and paper, wood products, mining, non-ferrous metallurgical, iron and steel, chemical, food and beverage, waste processing, hazardous and municipal solid waste incineration, power generation, automotive, and cement, to general manufacturing.

The TurboSonic SO_2 Removal and Recovery Process uses Dow Chemical's proprietary amine-based sorbent to remove and recover pure sulfur dioxide (SO_2) emissions. This technology reduces waste and provides economic return, while meeting regulatory requirements. The Turbotak Scrubber removes solid, liquid and gaseous contaminants from process exhaust streams at higher efficiencies and lower operating costs than conventional equipment. The TurboSonic Wet Electrostatic Precipitator achieves high energy-efficiency sub-micron particulate capture (including heavy metals) at lower energy consumption than wet scrubbing. TurboSonic Evaporative Gas Cooling Systems control temperature and humidity of process gases and enhance air pollution control efficiencies. TurboSonic Dust Suppression Systems control dust arising from material handling with TurboSonic Nozzles. TurboSonic is a leader in dust control thanks to its engineered systems that control virtually all types of respirable and larger sized fugitive dust. This group of products represents economic and technical advantages over conventional equipment and is designed to meet the strictest emission regulations.

NSERC Researchers
TurboSonic Inc. was founded by Dr. Donald Spink, a chemical engineering professor at the University of Waterloo, now retired. His research has been supported through several strategic project and discovery grants, as well as a collaborative research and development grant with Stelco Ltd. in the early 1980s.

Vector 12 Corporation

Chief Executive Officer
Jim Fletcher

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Annual Revenue
Confidential

Number of Employees in Canada
12

Year Incorporated
2000

Stock Market Listing
N/A

Principal Markets
North America

Industrial Sectors
Semiconductors

Web Site
www.vector12.com

Products or Services
Vector 12 Corporation is a semiconductor intellectual property company that is addressing the challenges of designing, characterizing and testing the timing functions of increasingly complex and high-speed integrated circuits. Over 40,000 new integrated circuit designs are designed each year within the semiconductor industry worldwide. Integrated circuits are used in a wide variety of devices, including computers, audio and video equipment, and automobiles. These high-performance designs require complex timing specifications, which impact performance, power consumption, reliability, yield, time-to-market, time-to-volume, and test costs.

TimeBIST™, Vector 12's embedded timing analysis, eliminates expensive, time-consuming process characterization steps. The company's advanced timing methodologies and designs accelerate time-to-market for new integrated circuits. In addition, Vector 12's solutions can provide reduced design and test costs, enhanced yield and more precise technical specifications for integrated circuits.

NSERC Researchers
Vector 12 Corporation was founded by Dr. Sassan Tabatabaei, vice president and chief technology officer, and Dr. André Ivanov, Vector 12's director. Dr. Ivanov is an associate professor in the Department of Electrical and Computer Engineering at the University of British Columbia (UBC). He is also a lead professor of the UBC System-on-a-Chip Research Lab, a program focused on research in mixed-signal SoC design, verification and testing. Dr. Ivanov's primary research interests include design and methodologies of large and complex integrated circuits, and SoC technology. He has received NSERC discovery and industrially oriented research grants.

VEMAX MANAGEMENT INC.

CHIEF EXECUTIVE OFFICER
Ray Gerke

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ANNUAL REVENUE
Confidential

NUMBER OF EMPLOYEES IN CANADA
15

YEAR INCORPORATED
1994

STOCK MARKET LISTING
N/A

PRINCIPAL MARKETS
International

INDUSTRIAL SECTORS
Government

WEB SITE
www.vemax.com

PRODUCTS OR SERVICES
VEMAX Management Inc., part of the VEMAX group, is located in Saskatoon, Saskatchewan, with offices in Winnipeg, Manitoba, Edmonton, Alberta, and in Sydney and Melbourne in Australia. VEMAX assists all levels of government to improve their efficiency, effectiveness and accountability. VEMAX provides training, software, business process design, as well as ongoing support and consulting services in the application of the principles of asset management to public sector infrastructure assets. VEMAX's services include using the company's iBOS (Infrastructure Budgeting Optimization System) software. The iBOS system gathers the many details of infrastructure management under a single umbrella, thus providing a review of a client's business processes and assessing their ability to deliver optimal infrastructure preservation strategies.

VEMAX has worked with the Canadian Strategic Highway Research Program as well as many highway and city engineering departments to find more cost-effective ways of rehabilitating pavements as Canada's highways reach the end of their first life cycles. VEMAX uses performance modelling, which predicts how pavements will perform under various maintenance and rehabilitation strategies.

NSERC RESEARCHERS
Dr. Gordon Sparks and Mr. Ray Gerke joined forces in 1994 to form VEMAX Management Inc. Dr. Sparks managed the company's R&D division until his recent appointment as vice-president of business development. Dr. Sparks is a professor of civil engineering at the University of Saskatchewan. NSERC has supported Dr. Sparks' research with collaborative research and development, discovery, and strategic project grants.

Venmar CES Inc.

Chief Executive Officer
Maury Wawryk

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Annual Revenue
Confidential

Number of Employees in Canada
250

Year Incorporated
1980

Stock Market Listing
N/A

Principal Markets
North America

Industrial Sectors
Commercial, Residential, and Institutional Ventilation Systems

Web Site
www.venmarvent.com

Products or Services
Venmar CES Inc. develops and manufactures ventilation and heat exchanger systems for homes and businesses and markets its products throughout North America. The polypropylene core is easy to make, corrosion resistant, and easy to clean. Consequently, manufacturing and maintenance costs are lower than those of conventional heat exchangers. Three energy technologies are now available: the flat plate heat exchanger, the enthalpy wheel, and the heat pipe system.

NSERC Researchers
Robert Besant's research on heat exchangers began as a project based at the University of Saskatchewan and was funded by an NSERC strategic project grant. Dr. Besant has held several NSERC discovery, strategic project, and collaborative research and development grants.

Virtek Vision International Inc.

Chief Executive Officer
Jim O. Crocker

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(519) 746-3383

Email
N/A

Annual Revenue
$30,000,000

Number of Employees in Canada
100

Year Incorporated
1986

Stock Market Listing
Exchange: TSX
Symbol: VRK

Principal Markets
North America, Europe, Pacific Rim

Industrial Sectors
Manufacturing, Construction, Aerospace, Biotechnology

Web Site
www.virtek.ca

Products or Services
Virtek Vision International Inc. is a world leader in the development and application of precision laser systems to enhance manufacturing processes by increasing throughput, improving quality and reducing costs. Virtek's products are used for 3D templating applications in pre-fabricated construction and aerospace, plus imaging of 2D parts for quality inspection and reverse engineering. By integrating lasers, computer software, and computer hardware, Virtek supplies highly defined and specialized products that address industry-specific problems. Virtek specializes in the development and commercialization of systems incorporating laser, complex computer algorithms, and personal computers. In general, Virtek's products help to increase production yields from expensive and/or unwieldy materials and to reduce costly set-up and changeover times. Virtek's products include the Virtek LaserEdge™ for composite material parts manufacturing in the aerospace industry, the Virtek TrussLine™ for roof fabrication in the housing construction industry, the Virtek LeatherCam used in the leather goods industry, and the LaserQC® used in the parts inspection industry.

Virtek now also develops and manufactures two biotechnology products, the ChipWriter™ Pro and the ChipReader®. Users can pick DNA samples and place these on microarray slides using the ChipWriter™ Pro high-throughput DNA spotting system. Clients can also recognize, select and transfer random colonies to microwell plates using Virtek's Colony Arrayer, and conduct experiments using the ChipReader® high-sensitivity laser confocal scanner for the rapid imaging of microarrays.

NSERC Researchers
Two of Virtek Vision International Inc.'s founders, professor emeritus Andrew Wong and professor Mohamed Kamel, are with the Department of Systems Design Engineering at the University of Waterloo. Dr. Kamel also holds the Canada Research Chair in Cooperative Intelligent Systems. Their research has been supported by NSERC discovery, strategic project, and research tools and instruments grants.

Vortek Industries Ltd.

Chief Executive Officer
Reg Allen

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Annual Revenue
Confidential

Number of Employees in Canada
65

Year Incorporated
1976

Stock Market Listing
N/A

Principal Markets
International

Industrial Sectors
Semiconductor Manufacturing Equipment

Web Site
www.vortek.com

Products or Services

With process demonstration systems in place, a fast-growing staff of over 60 and a new 19,000 square foot design/manufacturing facility, Vortek Industries Ltd. is moving ahead to commercialize its unique rapid thermal processing (RTP) technology.

Vortek's RTP technology will lead the semiconductor industry with manufactured chip device structures required now and throughout the next decade. This proprietary technology is patented and will ensure Vortek is at the forefront of this segment of the semiconductor tool market.

Vortek Industries was founded to commercialize a unique lamp technology developed at the University of British Columbia 25 years ago. The "water-wall arc" produces light intensities far beyond anything previously achieved, with a maximum power reaching 500kW — or the equivalent of 5,000 100-watt bulbs.

The company developed key markets in solar simulation where the lamp is used to mimic the sun's rays and in thermal test/materials processing where it is used as a radiant energy source.

A list of internationally recognized scientific organizations use Vortek systems, including Canada's National Solar Testing Facility, the U.S. National Renewable Energy Laboratory, NASA, and major spacecraft contractors such as Fokker Space in Europe.

Several years ago, Vortek began a new initiative to use its arc lamp technology in one of the processing steps in manufacturing computer chips from silicon wafers. This step is called thermal annealing and requires very precise and rapid heating and cooling of the wafer. The technique is known as rapid thermal processing. Vortek has now not only found itself with a better process — but with a process that promises to enable production of leading-edge chips that will power the fastest and most energy-efficient computing devices in the coming years. Advanced RTP now represents the major focus of the company.

NSERC Researchers

Vortek Industries was founded by Drs. Roy Nodwell and David Camm. Both received NSERC grant support while in the Department of Physics and Astronomy at the University of British Columbia. Dr. Nodwell participated in a group discovery grant to study laser fusion and applied plasma physics. Dr. Camm participated in a strategic project grant in advanced materials research at high temperature and high pressure.

Waterloo Maple Inc.

Chief Executive Officer
C. James Cooper

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Annual Revenue
Confidential

Number of Employees in Canada
100

Year Incorporated
1988

Stock Market Listing
N/A

Principal Markets
International

Industrial Sectors
Education, Industrial, Software

Web Site
www.maplesoft.com

Products or Services
Founded in 1988 and headquartered in Waterloo, Ontario, Waterloo Maple Inc. is a world leader in mathematical and analytical software. The Maple system embodies advanced technology such as symbolic computation, infinite precision numerics, innovative Web connectivity and a powerful language for solving a wide range of mathematical problems encountered in modeling and simulation. Over a million users have adopted Waterloo Maple products as their preferred platform for exploring and managing complex problems in engineering, science, mathematics, and technical education. Virtually every major university and research institute in the world, including MIT, Stanford, Oxford and Waterloo, has adopted Maple to enhance their education and research activities. Waterloo Maple's industrial customers include Nortel Networks, Raytheon, Boeing, and DaimlerChrysler.

NSERC Researchers
Waterloo Maple Inc. was founded by University of Waterloo computer science professor Dr. Keith Geddes. His research interests include algebraic algorithms for symbolic computation, the design of the Maple computer algebra system, and exploring the symbolic-numeric interface in scientific computing. Dr. Geddes has received numerous NSERC grants since the late 1970s.

WaveCom Electronics Inc.

Chief Executive Officer
Dr. Surinder Kumar

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S7L 6H8

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Annual Revenue
$28,000,000

Number of Employees in Canada
270

Year Incorporated
1988

Stock Market Listing
N/A

Principal Markets
International

Industrial Sectors
Communications Technologies

Web Site
www.wavecom.ca

Products or Services
WaveCom Electronics Inc. is a leading designer of state-of-the-art communications products. The company designs and manufactures radio frequency communication products, which have been integrated by many of the world's key technology leaders into innovative products and systems in the Data-Over-Cable, Video-On-Demand and Broadband Fixed Wireless markets. WaveCom also offers its own branded family of products, including IF-to-RF QAM (quadrature amplitude modulation) Upconverters, QAM modulators, transmodulators, cable TV headend products, and wireless products for MMDS (multipoint microwave distribution system) and LMDS (local multipoint distribution system) applications. WaveCom's Systems Division provides turnkey deployment of the DOCSIS (data-over-cable service interface specification) wireless solution, which offers cost-effective and easy-to-implement broadband wireless high-speed internet access.

WaveCom's integration customers include CISCO Systems, Juniper Networks, Motorola, Sumitomo, Seachange, Harris, and Andrew Corporation. WaveCom's branded customers include Comcast, Time-Warner, Cox, AT&T Broadband, Charter, Rogers, Shaw, Cogeco, Telstra, Cable Hong Kong, Jupiter/Titus and NTT-ME.

NSERC Researchers
WaveCom Electronics Inc. was founded by Surinder Kumar, a former electrical engineering professor at the University of Saskatchewan. Dr. Kumar, a recognized expert in microwave engineering, has received many NSERC discovery grants. His latest research involves the study of receivers, direct modulators, and linearizers for digital mobile radios, and LMDS and MMDS.

WAVEMAKERS INC.

CHIEF EXECUTIVE OFFICER
Peter van der Gracht

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ANNUAL REVENUE
Confidential

NUMBER OF EMPLOYEES IN CANADA
20

YEAR INCORPORATED
1993

STOCK MARKET LISTING
N/A

PRINCIPAL MARKETS
International

INDUSTRIAL SECTORS
Speech Recognition, Speech Enhancement, Telematics, PDAs, PCs and Consumer Electronics

WEB SITE
www.wavemakers.com

PRODUCTS OR SERVICES
Wavemakers develops and sells innovative voice optimization software that dramatically improves the performance of automatic speech recognition (ASR) engines. ASR engines control any voice-activated device or machine. They are the voice user interfaces that drive computers, telematics systems, PDAs, PCs, tablets and consumer electronics. Wavemakers' Audio Intelligence™ system enhances and reconstructs speech and has been proven to reduce the error rate of speech recognition systems by as much as 85 per cent. Founded in 1993, this private corporation is currently based in Vancouver, British Columbia, and is a third-party developer for the Intel® StrongARM® processing platform, a member of the Intel PCA Developer Network and is Texas Instruments eXpress DSP™ compliant. Wavemakers' mission is to ensure that every time a computer or other digital device listens, it listens with the company's award-winning voice optimization solution, ClearStream™.

NSERC RESEARCHERS
Wavemakers' co-founder and chairman, Max Cynader, is one of Canada's leading neuroscientists. He has received numerous awards and recognition for his pioneering work in brain function. Dr. Cynader is a fellow of both the Royal Society of Canada and the Canadian Institute for Advanced Research. He has received NSERC funding for more than twenty years, as well as funding from private companies including Allergan, Alcon, and Glaxo. Dr. Cynader is a professor in the Department of Ophthalmology at the University of British Columbia and the director of the Brain and Spinal Cord Research Centre at the Vancouver Hospital and Health Sciences Centre.

With more than 16 years of experience in experimental and theoretical acoustics research, Wavemaker's co-founder and chief technology officer, Pierre Zakarauskas, is an expert in his field and has published extensively in the leading journals. Dr. Zakarauskas is also a proud recipient of an NRC/NSERC 1967 Science and Engineering Scholarship.

Western Ag Innovations

Chief Executive Officer
Ken Greer

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Email
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Annual Revenue
Confidential

Number of Employees in Canada
5

Year Incorporated
1994

Stock Market Listing
N/A

Principal Markets
North America

Industrial Sectors
Agriculture

Web Site
www.westernag.ca

Products or Services
Western Ag Innovations manufactures and distributes the Plant Root Simulator probe (PRS™-probe) to discover the dynamic nutrient supply of a soil. Customers ranging from farmers to research scientists use the PRS™-probes to know the exact soil nutrient supply of their research sites or farmland. The PRS™-probe is comprised of an ion exchange membrane, a small strip of translucent material that contains either a positive or negative charge. The membrane attracts minerals of the opposite charge as they are cycled through the living soil. A one-day measurement with the PRS™-probe is then downloaded to a powerful software tool called the PRS™ Forecaster. Farmers use this tool to predict if the soil supply can meet the plants' demands for a particular set of growing conditions. Using the PRS™ technology, fertilizer nutrients are more judiciously applied since the balance of soil nutrients required can be matched to crop demand.

In addition, PRS™ technology can be used to measure levels of some herbicides and pesticides, as well as other important organic ions. It has also proven to be a useful tool for monitoring industrial pollution, such as soil contamination around oil fields.

NSERC Researchers
Ken Greer, president of Western Ag Innovations, is a former associate in Dr. Jeff Schoenau's research program. Mr. Greer founded the company to commercialize Dr. Schoenau's research into the Plant Root Simulator. Dr. Schoenau is a research scientist and professor in the Department of Soil Science at the University of Saskatchewan. He is also a working farmer with 1,200 acres of land near Central Butte, Saskatchewan, where he uses the Plant Root Simulator regularly. Dr. Schoenau first started thinking of the Plant Root Simulator about 10 years ago when he was a postdoctoral fellow at the University of Saskatchewan. NSERC supported some of Dr. Schoenau's early research on the Plant Root Simulator technology with a collaborative research and development grant.

Westport Innovations Inc.

Chief Executive Officer
David Demers

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Annual Revenue
$23,300,000 (December 2001)

Number of Employees in Canada
178

Year Incorporated
1995

Stock Market Listing
Exchange: TSX
Symbol: WPT

Principal Markets
North/South America, Europe, Asia

Industrial Sectors
Environmental Technology,
Automotive

Web Site
www.westport.com

Products or Services
Westport Innovations Inc. is engaged in the research, development and marketing of high-performance, low-emission engine fuel systems that use natural gas or propane, and potentially other gaseous fuels such as hydrogen. The company's strategy is to develop fuel systems for sale in new engines in cooperation with the world's leading diesel engine manufacturers. Westport has so far established one commercial joint venture and three cooperative fuel system development agreements. The joint venture is with Cummins Inc. of Columbus, Indiana, the world's largest manufacturer of commercial diesel engines above 50 horsepower. The joint venture company, Cummins Westport Inc., sells two lines of natural gas engines up to 280 horsepower and one line of propane engines up to 195 horsepower. These engines are used in urban buses and trucks. Cummins Westport Inc. is also field testing natural gas engines in the 400 horsepower range for heavy-duty highway trucks and in the 2,500 horsepower range for stationary electric power generation, both of which are expected to come to the market by 2004. The cooperative agreements are with Ford Motor Company of Dearborn, Michigan; Isuzu Motors Ltd. of Tokyo, Japan; and MAN Nutzfahrzeuge AG of Munich, Germany. They involve natural gas fuel systems for engine applications ranging from compact cars to heavy-duty trucks that may be available to the market by 2006.

NSERC Researchers
Dr. Philip Hill is a professor of mechanical engineering at the University of British Columbia. A specialist in combustion, his research has been supported by NSERC discovery, strategic project, and research tools and instruments grants. His technology was licensed in 1994, resulting in the formation of Westport Innovations Inc.

Wi-LAN Inc.

President and Chief Executive Officer
Dr. Hatim Zaghloul

Address
2891 Sunridge Way N.E.
Calgary, Alberta
T1Y 7K7

Telephone
(403) 273-9133

Fax
(403) 273-5100

Email
info@wi-lan.com

Annual Revenue
$24,802,000

Number of Employees in Canada
110

Year Incorporated
1992

Stock Market Listing
Exchange: TSX
Symbol: WIN

Principal Markets
International

Industrial Sectors
Communications

Web Site
www.wi-lan.com

Products or Services

Wi-LAN Inc. is a global innovator of wireless products and technologies that enable the high-speed transmission of data, including Internet access over broadband wide-area networks. Wi-LAN provides comprehensive systems that allow rapid and cost-effective deployment of wireless broadband services, and licenses its technologies and products to interested parties.

Wi-LAN has four primary product categories in its broadband wireless wide-area networking portfolio: Broadband Wireless Access Systems (BWS), Advanced Wireless Ethernet bridges (AWE), VINE Internet Protocol Systems (VIP), and TIL-TEK Antennas. These products can be used in point-to-point, point-to-multipoint, and any point-to-multipoint network architectures, in both licensed and licence-exempt radio frequencies. Wi-LAN's products are currently designed to build and extend wide-area networks and to extend local-area networks, enabling service providers to offer new revenue-generating broadband services to their customers, and enabling enterprise customers to build or extend their private networks. Wi-LAN's customer base includes telecommunication service providers, original equipment manufacturers, businesses and other vertical market segments, including educational institutions and government departments.

Wi-LAN's licensing strategy is to license its patented Wide-Band Orthogonal Frequency Division Multiplexing (W-OFDM), Multi-Code Direct Sequence Spread Spectrum (MC-DSSS), and patent-pending Versatile Intelligent Network Environment (VINE) technologies to industry participants. Wi-LAN's licensing strategy is designed to promote its technologies to industry players, such as additional semiconductor companies and consumer electronics manufacturers, and to spur the development of broadband wireless access products.

NSERC Researchers

Wi-LAN Inc. was founded by Drs. Hatim Zaghloul and Michel Fattouche after the long-time friends developed a new wireless technology called Wide-Band Orthogonal Frequency Division Multiplexing (W-OFDM). The partners negotiated for patent rights with AGT Ltd. (now TELUS Corp.), where Dr. Zaghloul was working as a senior researcher. Drs. Zaghloul and Fattouche hold two joint patents as well as individual patents for leading-edge technological breakthroughs. Dr. Zaghloul currently serves as Chairman, President and CEO of Wi-LAN. Dr. Fattouche is President and CEO of Cell-Loc Inc., another company that he and Dr. Zaghloul founded. He is a dedicated researcher and associate professor in the Department of Electrical and Computer Engineering at the University of Calgary. A former NSERC senior industrial fellow, Dr. Fattouche's research was supported by NSERC discovery grants. Dr. Zaghloul was a recipient of an NSERC postgraduate scholarship.

Wildlife Genetics International Inc.

President
Dr. David Paetkau

Address
P.O. Box 274
Nelson, British Columbia
V1L 5P9

Telephone
(250) 352-3563

Fax
(250) 352-3567

Email
info@wildlifegenetics.ca

Annual Revenue
$500,000

Number of Employees in Canada
5

Year Incorporated
1998

Stock Market Listing
N/A

Principal Markets
Canada

Industrial Sectors
Research and Service in Wildlife Genetics

Web Site
www.wildlifegenetics.com

Products or Services
In the past few years, wildlife managers, game farmers, breeders, and researchers involved in population and conservation studies have expressed a growing need for commercial DNA fingerprinting. Wildlife Genetics International Inc.'s superior wildlife genetic analysis provides these groups with DNA extractions, microsatellite genotyping, species testing, gender analysis, identity analysis, as well as raw databases of results.

Most of Wildlife Genetics' work involves bears. The company estimates the size of bear populations by means of mark-recapture methods that use small samples of hair collected from sites, which are then subjected to DNA analysis. The technology is used in a wide range of applications from basic research and environmental impact assessments to wildlife forensics.

NSERC Researchers
Wildlife Genetics International Inc. was co-founded by Dr. Curtis Strobeck, a professor of biological science at the University of Alberta. Dr Strobeck, who also serves as a scientific advisor at Wildlife Genetics, is an internationally recognized DNA forensics and conservation geneticist. An NSERC discovery grant helped support Dr. Strobeck's research into genetic markers. The development of bear and elk genotyping was carried out by two students, David Paetkau and Renée Polziehn, as part of their graduate research. Dr. Paetkau held an NSERC Post-graduate Scholarship and an NSERC Postdoctoral Fellowship at the University of Queensland in Australia. Dr. Polziehn, now the outreach coordinator for the Faculty of Graduate Studies and Research at the University of Alberta, received an NSERC University Undergraduate Student Research Award and a Promo-Science grant for outreach activities aimed at elementary and secondary students. Dr. Strobeck's research has been supported by discovery, collaborative research and development, and research tools and instruments grants for over 20 years.

ZENON Environmental Inc.

Chief Executive Officer
Dr. Andrew Benedek

Address
3239 Dundas Street West
Oakville, Ontario
L6M 4B2

Telephone
(905) 465-3030

Fax
(905) 465-3050

Email
N/A

Annual Revenue
$124,711,000

Number of Employees in Canada
634

Year Incorporated
1980

Stock Market Listing
Exchange: TSX
Symbol: ZEN

Principal Markets
International

Industrial Sectors
Potable and Wastewater Treatment, Municipal Water Reuse and Industrial Applications

Web Site
www.zenon.com

Products or Services
ZENON Environmental Inc. is a world leader in providing membrane-based separation products and services for water purification, process separation and wastewater treatment, and water reuse applications. The ZENON group of companies operates from seven locations in North America, six in Europe, and one each in Latin America, Asia and the Middle East. ZENON's products and services are marketed for a variety of municipal, industrial, and government applications worldwide through its offices and representatives.

ZENON specializes in membrane technologies (such as reverse osmosis, nanofiltration, ultrafiltration and microfiltration) to purify, separate, concentrate or recycle water and waste. ZENON also uses many complementary processes such as ion exchange, adsorption and biodegradation to satisfy clients' requirements. It has hundreds of installations worldwide that purify, treat or recycle water from municipalities and all types of industries. The company also has a large number of units that purify water for the army and the navy.

ZENON's quality assurance programs meet the highest international standards for the industry. Customer support is provided by an experienced service department and an application engineering group.

ZENON frequently works in partnership with its clients to develop new technological solutions. The company also partners with complementary businesses around the world to better serve its global client base.

NSERC Researchers
ZENON Environmental Inc.'s founder is Dr. Andrew Benedek, a former chemical engineering professor at McMaster University. NSERC supported his early investigations with discovery grants.